This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

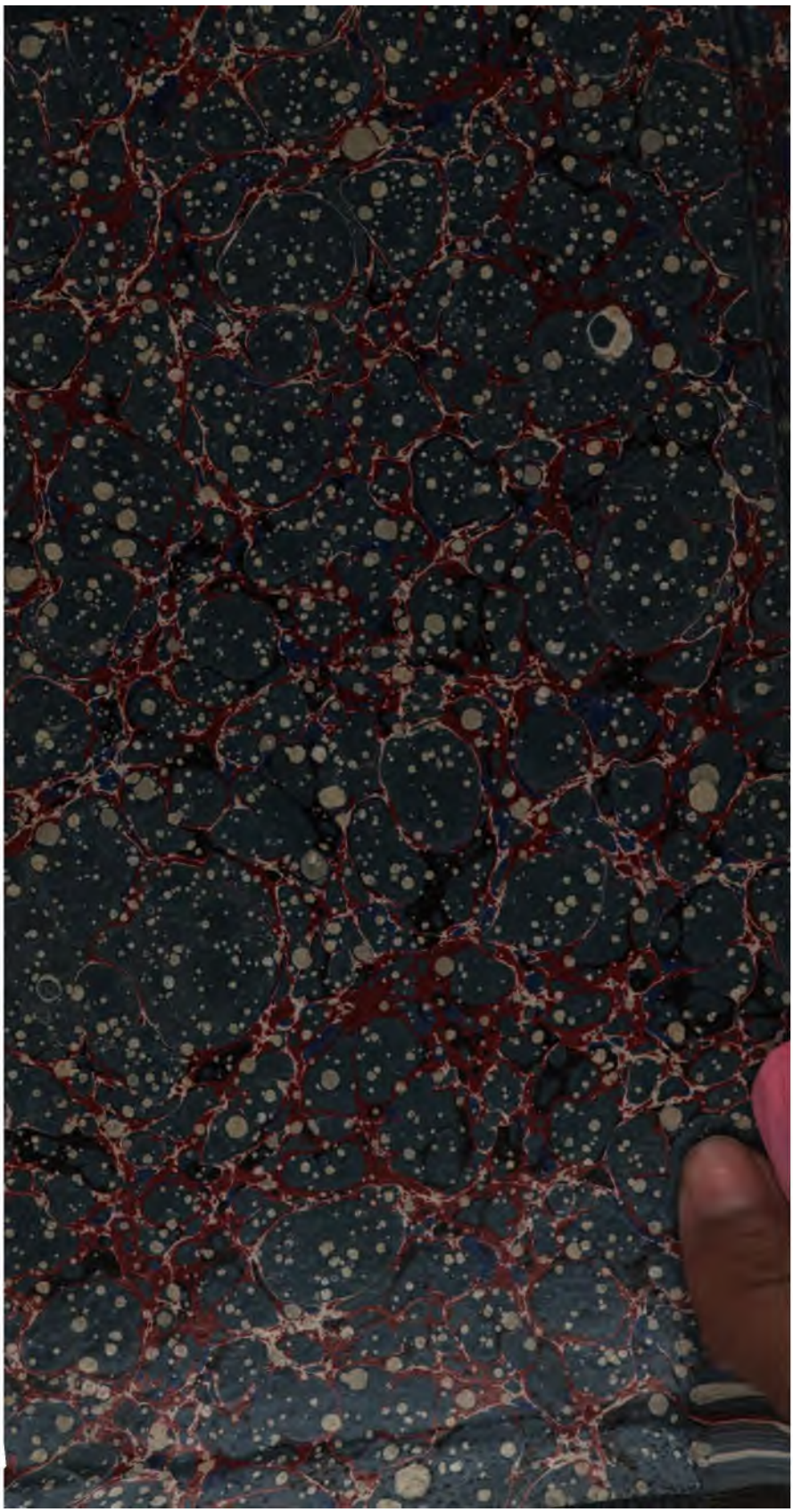
+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

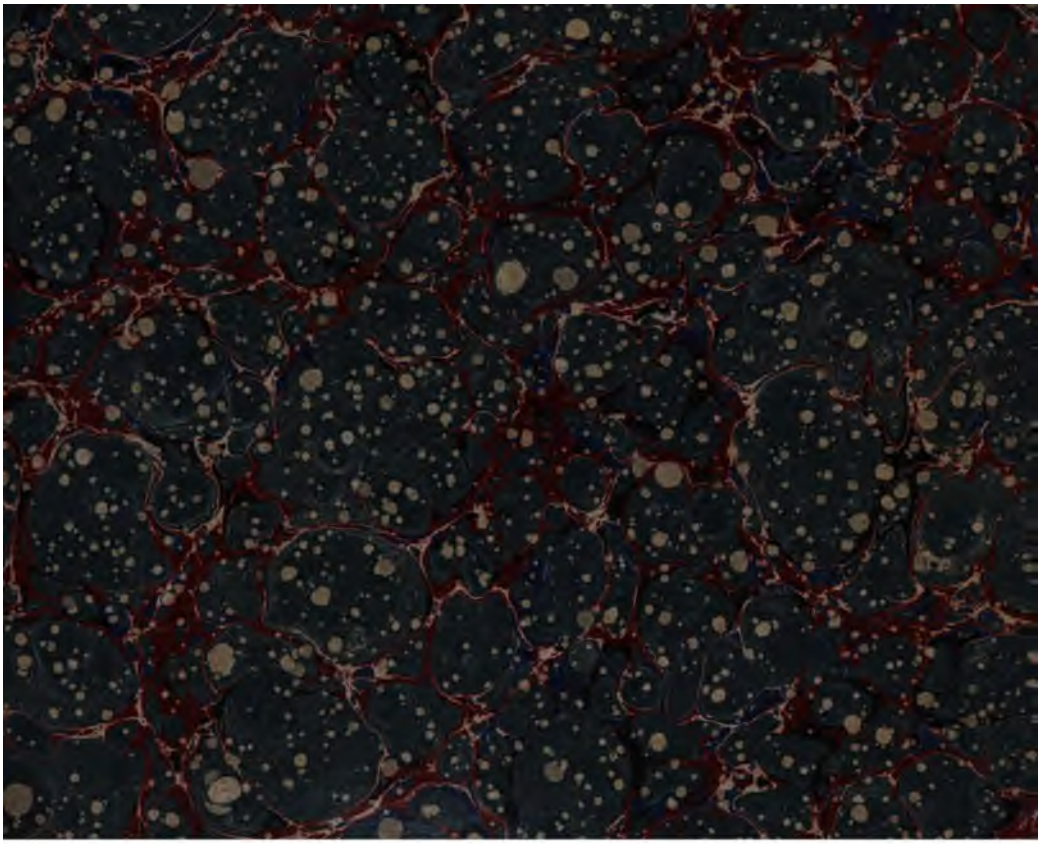
+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

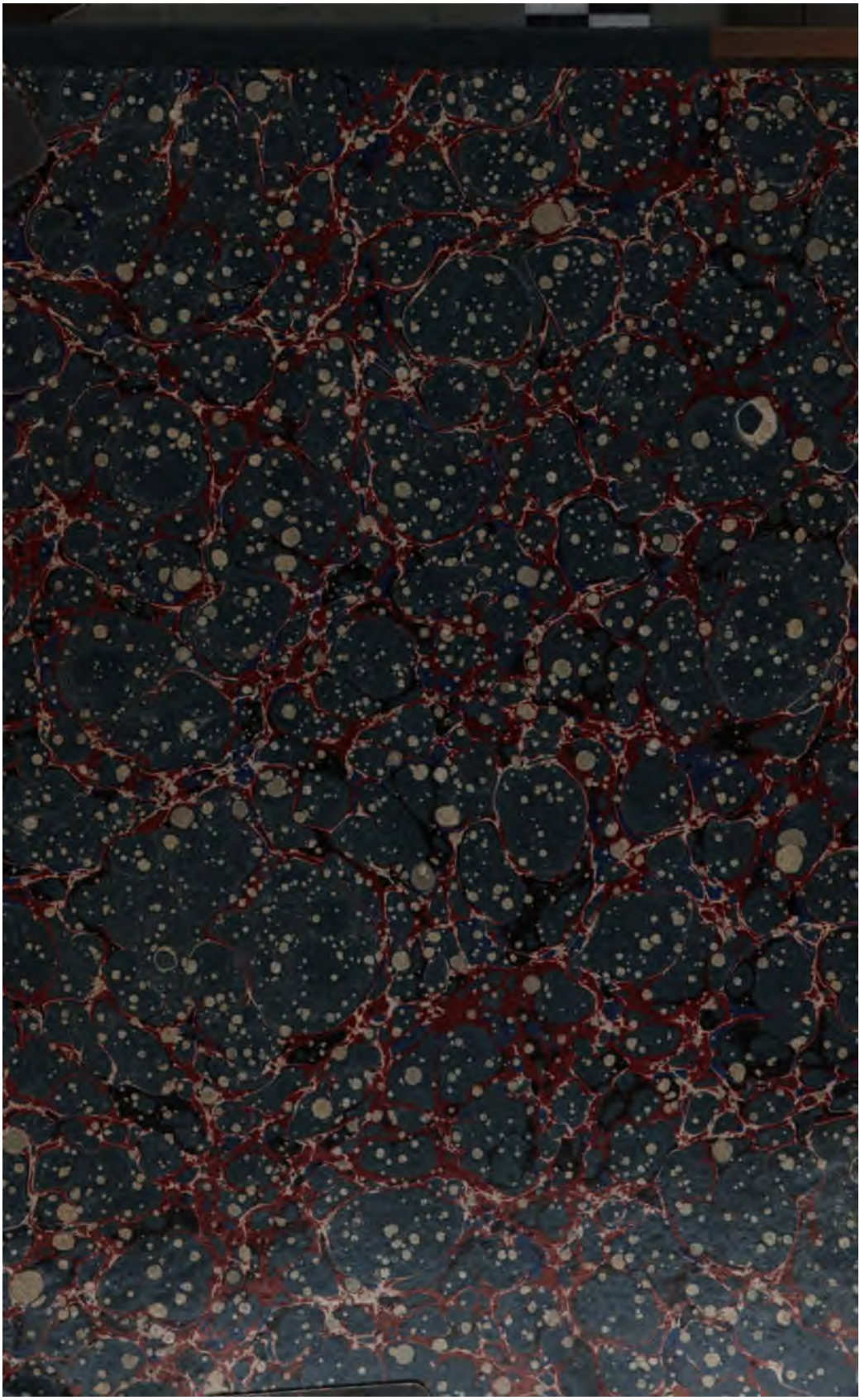
+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

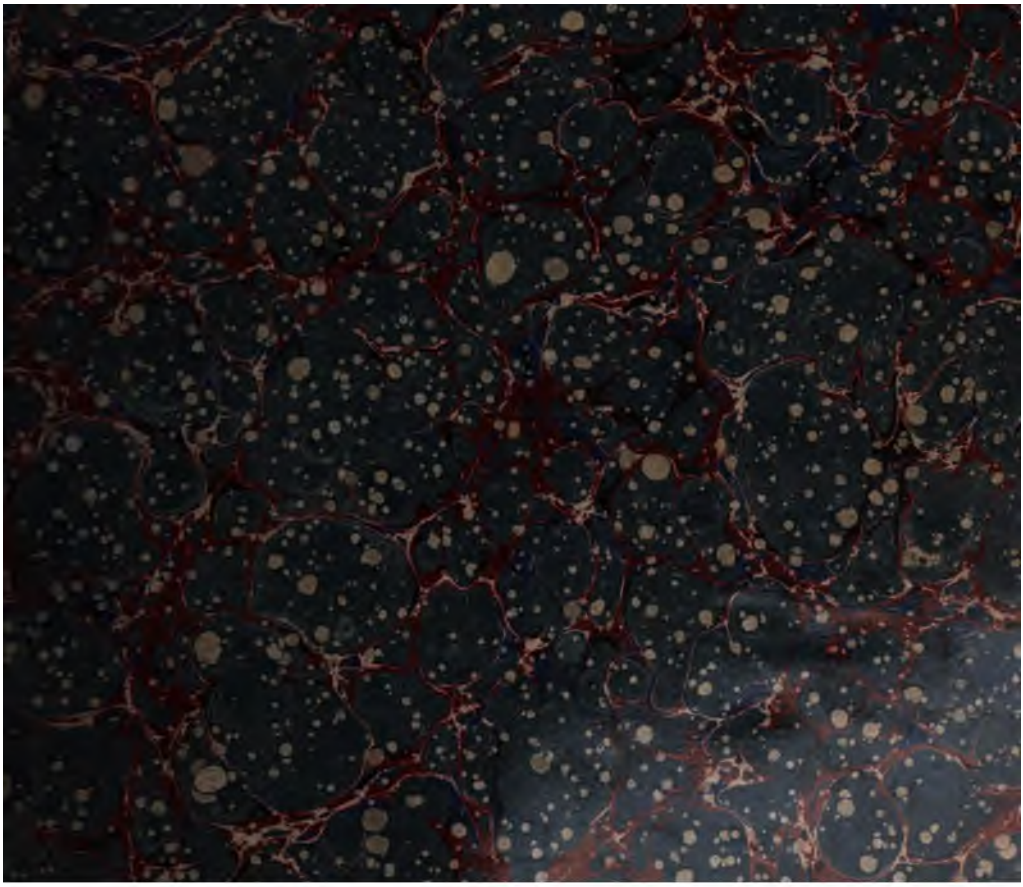
About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`









77 XI. No. 1. OCTOBER, 1900.

THE MONIST

A QUARTERLY MAGAZINE

Devoted to the Philosophy of Science

Editor: DR. PAUL CARUS,
Assistant Editor: T. J. MCCORMACK.
Associates: E. C. HEGELER, MARY CARUS.

CONTENTS:

PAGE

THE BELIEF IN THE RESURRECTION OF JESUS AND ITS PERMANENT SIGNIFICANCE.
PROF. PAUL SCHWARTZKOPFF - - - - - - - 1

LAMARCK'S VIEWS ON THE EVOLUTION OF MAN, ON MORALS, AND ON THE RELATION OF SCIENCE TO RELIGION.
PROF. A. S. PACKARD - - - - - - - - 30

MATHEMATICAL PRINCIPLES OF ESTHETIC FORMS. Illustrated.
DR. ARNOLD EMCH - - - - - - - - - 50

THE ETHICS OF CHILD STUDY.
DR. MAXIMILIAN P. E. GROSZMANN - - - - - 65

THE GREEK MYSTERIES, A PREPARATION FOR CHRISTIANITY. Illustrated.
EDITOR - - - - - - - - - - - 87

LITERARY CORRESPONDENCE.
France.
LUCIEN ARRÉAT - - - - - - - - - 124

COMMUNICATIONS.
The Recent Psychological Congress at Paris - - - - - - 132

BOOK REVIEWS. [For particulars see inside title-page.] - - - - - 134

CHICAGO:

THE OPEN COURT PUBLISHING CO.

Price, 50 cts.; Yearly, $2.00.

LONDON: KEGAN PAUL, TRENCH, TRÜBNER & COMPANY, LIMITED.

In England and U. P. U., half a crown; Yearly, 9s 6d.

Copyrighted, 1900, by the Open Court Publishing Co. Entered at the Chicago Post Office as Second-Class Matter.

A CLASSICAL WORK ON CHINA

THE TRAVELS IN TARTARY, THIBET AND CHINA

Of MM. HUC and GABET

New Edition. From the French. Two Vols. 100 Illustrations. 688 Pages.
Cloth, $2.00 (10s.). Handsomely Bound in Oriental Style.
Popular Edition, 1 Vol., Cloth, $1.25 (5s.) net.

A Truly Fascinating Work.—One of the Most Popular Books of All Times.

Read the Following Commendatory Notices:

"The work made a profound sensation. Although China and the other countries of the Orient have been opened to foreigners in larger measure in recent years, few observers as keen and as well qualified to put their observations in finished form have appeared."—*The Watchman.*

"The book is a classic, and has taken its place as such, and few classics are so interesting. It deserves to be put on the same shelf as Lane's *Modern Egyptians.* These reprints ought to have a large sale, Few books will have more readers than the missionary adventures of Abbé Huc and his no less daring companion."—*The Catholic News.*

"Fools, it is known, dash in where angels fear to tread, and there are also instances of missionaries dashing in where intrepid and experienced travellers fail. Such was the case with MM. Huc and Gabet, the two mild and modest French priests who, fifty years ago, without fuss, steadily made their untortured way from China across Thibet and entered L'hassa with the message of Christianity on their lips. It is true that they were not allowed to stay there as long as they had hoped; but they were in the Forbidden Land and the Sacred City for a sufficient time to gather enough facts to make an interesting and very valuable book, which on its appearance in the forties (both in France and England) fascinated our fathers much in the way that the writings of Nansen and Stanley have fascinated us. To all readers of Mr. Landor's new book who wish to supplement the information concerning the Forbidden Land there given, we can recommend the work of M. Huc. Time cannot mar the interest of his and M. Gabet's daring and successful enterprise."—*The Academy.*

"The descriptions of the perils and difficulties of travel, of the topography and of climatic phenomena, are remarkably simple and vivid. How wonderfully has the Catholic missionary penetrated the least known lands! Rarely well qualified to travel, frequently frail of body and simple of mind, he has, through sheer earnestness of purpose, made his way, where strength, experience, and cunning fail. The Open Court Co. has certainly done well in bringing out an English version of *Travels in Tartary, Thibet, and China . . .* at this time."—PROF. FREDERICK STARR, in *New Unity.*

"One of the most striking books that have ever been written on the East is the one, here reprinted, of the travels of the Jesuit missionaries Gabet and Huc in Tartary, China, and Thibet, over fifty years ago. The modesty as well as the fulness of the narrative strikes the reader with astonishment, in view of the incredible difficulties of the camel journey, the ease with which they were overcome, the abundance and novelty of the information obtained, and the combined picturesqueness, impersonality, and humility of these two accomplished priests."—*The Critic.*

"The interest in the territory treated in this volume is just now immense, on account of the imminency of the partition of China by the governments of Europe."—*Sunday School Library Bulletin.*

"Once one takes up the volumes, it is hard to shake oneself free from the gentle spell of his narrative, and when the last page is turned down and we leave the two kindly priests on their homeward journey, at the boundaries of China, we want to go with them every remaining step of the way, live in their tents, share their scanty handfuls of meal, and enjoy with them a whimsical smile at the dilemmas and adventures of each succeeding day."—*Law List of United Commercial Lawyers.*

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

THE MONIST

A QUARTERLY MAGAZINE

DEVOTED TO THE PHILOSOPHY OF SCIENCE

VOLUME XI

CHICAGO
THE OPEN COURT PUBLISHING COMPANY
LONDON AGENTS:
KEGAN PAUL, TRENCH, TRÜBNER & CO., LTD.
1901

COPYRIGHT BY
THE OPEN COURT PUBLISHING CO.
1900-1901.

62739

CONTENTS OF VOLUME XI.

ARTICLES AND AUTHORS.

PAGE

Arréat, Lucien. Literary Correspondence (France) 124, 277, 448, 602

Bible, The Fairy-Tale Element in the. By Paul Carus 405, 500

Boltzmann, Ludwig. The Recent Development of Method in Theoretical Physics 226

Brain Anatomy and Psychology. By L. Edinger 339

Candlin, George T. Giles's *History of Chinese Literature* 616

Carus, Paul. The Greek Mysteries, a Preparation for Christianity, 87; Jew and Gentile in Early Christianity, 267; The Fairy-Tale Element in the Bible, 405, 500; The Authenticity of the *Tao Teh King*, 574.

Child-Study, The Ethics of. By Maximilian P. E. Groszmann 65

Christ, the Resurrection of. By William Weber 361

Christianity, Jew and Gentile in Early. By Paul Carus 267

Craig, James A. The Earliest Chapter of History 481

Dreams in Greek and Roman Antiquity, Prophetic. By N. Vaschide and H. Piéron 161

Edinger, L. Brain Anatomy and Psychology 339

Emch, Arnold. Mathematical Principles of Esthetic Forms 50

Esthetic Forms, Mathematical Principles of By Arnold Emch 50

Giles's *History of Chinese Literature*. By George T. Candlin 616

Goethe and Kant. By Friedrich Jodl 258

Greek Mysteries, the, a Preparation for Christianity. By Paul Carus 87

Groszmann, Maximilian P. E. The Ethics of Child-Study 65

History, The Earliest Chapter of. By James A. Craig 481

Jesus, The Belief in the Resurrection of, and Its Permanent Significance. By Paul Schwartzkopff 1, 300

Jodl, Friedrich. Goethe and Kant 258

Lamarck's Views on the Evolution of Man, on Morals, and on the Relation of Science to Religion. By A. S. Packard 30

Lao-Tze and Professor Giles. By Teitaro Suzuki 612

PAGE
Leuba, James H. Introduction to a Psychological Study of Religion, 195; The Contents of Religious Consciousness, 536.
Literary Correspondence (France). By Lucien Arréat.....124, 277, 448, 602
Mach, Ernst. On Physiological, as Distinguished from Geometrical, Space.. 321
Museums of Science, Education, and the Arts, in Paris, The Projected International. Communicated 287
Packard, A. S. Lamarck's Views on the Evolution of Man, on Morals, and on the Relation of Science to Religion 30
Physics, The Recent Development of Method in Theoretical. By Ludwig Boltzmann..... 226
Piéron, H., and N. Vaschide. Prophetic Dreams in Greek and Roman Antiquity..... 161
Psychological Congress at Paris, The Recent. By A. L..... 132
Psychological Institute at Paris, The International. By S. Youriévitch..... 464
Religion, Introduction to a Psychological Study of. By James H. Leuba.... 195
Religious Consciousness, The Contents of. By James H. Leuba..... 536
Schwartzkopff, Paul. The Belief in the Resurrection of Jesus and Its Permanent Significance 1, 300
Space, on Physiological, as Distinguished from Geometrical. By Ernst Mach. 321
Suzuki, Teitaro. Lao-Tze and Professor Giles..... 612
Tao Teh King, The Authenticity of the. By Paul Carus..... 574
Vaschide, N., and H. Piéron. Prophetic Dreams in Greek and Roman Antiquity..... 161
Weber, William. The Resurrection of Christ..... 361
Youriévitch, S. The International Psychological Institute at Paris..... 464

BOOK REVIEWS.

Année Biologique 632
Arréat, Lucien. Dix années de philosophie..... 632
Baratono, Adelchi. I Fatti Psichici Elementari..... 314
Bastian, Adolf. Die mikronesischen Colonien aus ethnologischen Gesichtspunkten..... 479
Bawden, H. Heath. The Study of Lapses..... 142
Berkeley, George A Treatise Concerning the Principles of Human Knowledge, 637; Three Dialogues Between Hylas and Philonous, 637.
Binet, Alfred. La suggestibilité 633
Biological Lectures, Woods Holl, Mass..... 144
Bonney, Charles Carroll. World's Congress Addresses..... 158
Caldecott, Alfred. The Philosophy of Religion in England and America..... 634
Carus, Paul. Whence and Whither?..... 318
Chamberlain, William I. Education in India 145
Coe, George A. The Spiritual Life. Studies in the Science of Religion..... 470

PAGE
Cohn, Jonas. Geschichte des Unendlichkeitsproblems..... 160
Dillmann, A. Genesis..... 468
Dolson, Grace Neal. The Philosophy of Friedrich Nietzsche..... 635
Dyke, Charles Bartlett. The Economic Aspect of Teachers' Salaries..... 145
Eisler, Rudolf. Das Bewusstsein der Aussenwelt..... 640
Falckenberg, Richard. Hermann Lotze..... 317
Frazer, J. G. The Golden Bough..... 457
Freycinet, C. de. Essais sur la philosophie des sciences..... 154
Giles, Herbert A. A History of Chinese Literature..... 616
Griesbach, H. Physikalisch-Chemische Propædeutik..... 305
Griswold, Henry DeWitt. Brahman: A Study in the History of Indian Philosophy..... 635
Grosse, Ernst. Kunstwissenschaftliche Studien..... 472
Güttler, C. René Descartes: Meditationes de Prima Philosophia..... 631
Gunkel, Hermann. Genesis..... 468
Häcker, Valentin. Der Gesang der Vögel..... 639
Haeckel, Ernst. État actuel de nos connaissances sur l'origine de l'homme... 157
Hanus, Paul H. Educational Aims and Educational Values..... 298
Hensel, Paul. Thomas Carlyle..... 317
Holls, Frederick W. The Peace Conference at The Hague, and Its Bearings on International Law and Policy..... 302
Holzmüller, Gustav. Elemente der Stereometrie..... 310
Hubbell, George Allen. Horace Mann in Ohio..... 145
Hume, David. An Enquiry Concerning Human Understanding..... 312
Hume, David. An Enquiry Concerning the Principles of Morals..... 637
Hutchinson, Woods. The Gospel According to Darwin..... 159
Hyslop, James H. Syllabus of Psychology..... 480
Jandelli, Gaetano. Dell' Unità Delle Scienze Pratiche..... 313
Janet, Paul. Œuvres philosophiques de Leibnitz..... 634
Jastrow, Joseph. Fact and Fable in Psychology..... 290
Kirchmann, J. H. v. John Locke's Versuch über den menschlichen Verstand 311
Kroell, H. Der Aufbau der menschlichen Seele..... 138
Kühtmann, Alfred. Maine de Biran..... 628
Lacombe, Paul. Esquisse d'un enseignement basé sur la psychologie de l'enfant..... 297
Lloyd, Alfred H. Philosophy of History. An Introduction to the Philosophical Study of Politics..... 150
Mach, Ernst. Die Principien der Wärmelehre, 158; Die Mechanik in ihrer Entwickelung (fourth Edition), 638; Announcement of articles by, 640.
Marvin, Walter T. A Syllabus of an Introduction to Philosophy..... 480
Marx, Karl. La lutte des classes en France (1848–1850). Le xviii brumaire de Louis Bonaparte..... 152

PAGE
Mongré, Paul. Das Chaos in kosmischer Auslese..... 141
Pagano, Giacomo. Le Forme di Governo e la loro Evoluzione Popolare..... 478
Palágyi, Melchior. Neue Theorie des Raumes und der Zeit..... 638
Philosophy, Report of Paris Congress of. I. Philosophie générale et métaphysique..... 479
Pomezny, Frank. Grazie und Grazien in der deutschen Litteratur des 18. Jahrhunderts..... 639
Preyer, W. Die Seele des Kindes..... 141
Psychological Index, The, No. 6..... 143
Rand, Benjamin. The Life, Unpublished Letters, and Philosophical Regimen of Anthony, Earl of Shaftesbury, Author of the "Characteristics"..... 315
Richmond, Wilfrid. An Essay on Personality as a Philosophical Principle .. 300
Richter, Raoul. Berkeley's drei Dialoge zwischen Hylas und Philonous..... 311
Robins, Edwin Proctor. Some Problems of Lotze's Theory of Knowledge... 154
Rosa, Daniele. La Riduzione Progressiva della Variabilità e i suoi Rapporti coll' Estinzione e coll' Origine delle Specie..... 313
Royce, Josiah. The Conception of Immortality. The Ingersoll Lecture for 1899. 153
Ruemelin, Gustav. Politics and the Moral Law..... 636
Schleiermacher, Friedrich. Plato's Staat..... 311
Scientia. Exposé et dévelopment des questions scientifiques..... 156
Shinn, Milicent Washburn. The Biography of a Baby..... 476
Spencer, Frank Clarence. Education of the Pueblo Child..... 145
Stern, L. William. Ueber Psychologie der individuellen Differenzen..... 140
Stock, Otto. Friedrich Nietzsche, der Philosoph und der Prophet..... 635
Störring, Gustav. Vorlesungen über Psychopathologie..... 136
Suzuki, Teitaro. Açvaghosha's Discourse on the Awakening of Faith in the Mahâyâna..... 293
Taylor, Henry Osborn. The Classical Heritage of the Middle Ages..... 637
Thilly, Frank. Introduction to Ethics..... 148
Tilbe, H. H. Pâli Buddhism..... 320
Topinard, Paul. Science and Faith..... 474
Trivero, Camillo. La Teoria Dei Bisogni..... 312
Ueberweg, Friedrich. Berkeley's Abhandlung über die Prinzipien der menschlichen Erkenntnis..... 311
Upanishads with Sankara's Commentary, The..... 477
Van't Hoff, J. H. Leçons de chimie physique..... 309
Vincent, George Edgar. The Social Mind and Education..... 146
Wallace, Alfred Russel. Studies: Scientific and Social..... 306
Wenley, R. M. Contemporary Theology and Theism..... 151
Willoughby, Westel Woodbury. Social Justice..... 295
Wundt, Wilhelm. Völkerpsychologie..... 134
Zaleski, Ladislas. Le pouvoir et le droit philosophie du droit objectif..... 154

VOL. XI. No. 1. OCTOBER, 1900.

THE MONIST

A QUARTERLY MAGAZINE

Devoted to the Philosophy of Science

Editor: DR. PAUL CARUS.
Assistant Editor: T. J. MCCORMACK.
Associates: E. C. HEGELER. MARY CARUS.

CONTENTS:

PAGE

THE BELIEF IN THE RESURRECTION OF JESUS AND ITS PERMANENT SIGNIFICANCE.
PROF. PAUL SCHWARTZKOPFF - - - - - - - - 1

LAMARCK'S VIEWS ON THE EVOLUTION OF MAN, ON MORALS, AND ON THE RELATION OF SCIENCE TO RELIGION.
PROF. A. S. PACKARD - - - - - - - - - 30

MATHEMATICAL PRINCIPLES OF ESTHETIC FORMS. Illustrated.
DR. ARNOLD EMCH - - - - - - - - - - 50

THE ETHICS OF CHILD STUDY.
DR. MAXIMILIAN P. E. GROSZMANN - - - - - 65

THE GREEK MYSTERIES, A PREPARATION FOR CHRISTIANITY. Illustrated.
EDITOR - - - - - - - - - - - - - 87

LITERARY CORRESPONDENCE.
France.
LUCIEN ARRÉAT - - - - - - - - - - - 124

COMMUNICATIONS.
The Recent Psychological Congress at Paris - - - - - - 132

BOOK REVIEWS - - - - - - - - - - - - - - 134

Völkerpsychologie. By *W. Wundt*, p. 134.—Vorlesungen über Psychopathologie in ihrer Bedeutung für die normale Psychologie. By *G. Störring*, p. 136.—Der Aufbau der menschlichen Seele. By *H. Kroell*, p. 138.—Psychologie der individuellen Differenzen. By *L. W. Stern*, p. 140.—Die Seele des Kindes. By *W. Preyer*, p. 141.—Das Chaos in kosmischer Auslese. By *P. Mongré*, p. 141.—A Study of Lapses. By *H. H. Bawden*, p. 142.—The Psychological Index, No. 6, p. 143.—Biological Lectures from the Marine Biological Laboratory of Woods Holl, p. 144.—Education of the Pueblo Child. By *F. C. Spencer*, p. 145.—Economic Aspect of Teachers' Salaries. By *C. B. Dyke*, p. 145.—Education in India. By *W. J. Chamberlain*, p. 145.—Horace Mann in Ohio. By *G. A. Hubbell*, p. 145.—The Social Mind and Education. By *G. E. Vincent*, p. 146.—Introduction to Ethics. By *F. Thilly*, p. 148.—Philosophy of History. By *A. H. Lloyd*, p. 150.—Contemporary Theology and Theism. By *R. M. Wenley*, p. 151.—La lutte des classes en France (1848–1850). By *Karl Marx*. Trans. by *Léon Remy*, p. 152.—The Conception of Immortality. By *J. Royce*, p. 153.—Le pouvoir et le droit: philosophie du droit objectif. By *L. Zaleski*, p. 154.—Some Problems of Lotze's Theory of Knowledge. By *E. P. Robins*, p. 154.—Essais sur la philosophie des sciences. By. *C. de Freycinet*, p. 154.—Scientia. Exposé et développement des questions scientifiques, p. 156.—Etat actuel de nos connaissances sur l'origine de l'homme. By *E. Haeckel*, p. 157.—Die Principien der Wärmelehre. By *E. Mach*, p. 158.—World's Congress Addresses. By *C. C. Bonney*, p. 158.—The Gospel According to Darwin. By *Woods Hutchinson*, p. 159.—Geschichte des Unendlichkeitsproblems. By *J. Cohn*, p. 160.

CHICAGO:
THE OPEN COURT PUBLISHING COMPANY.
1900.

COPYRIGHT BY
THE OPEN COURT PUBLISHING CO.
1900

VOL. XI. OCTOBER, 1900. NO. 1.

THE MONIST

THE BELIEF IN THE RESURRECTION OF JESUS AND ITS PERMANENT SIGNIFICANCE.[1]

INTRODUCTION.

THE disciples, plunged into fear and terror by the crucifixion of their master, kept themselves concealed from their enemies during the first stages of anxiety. But after a short time they gathered again and faced the persecutions of the princes of the world with the bravery of lions. Poor fishers and men of the common people, without intellectual standing or higher culture, lacking all outward elements of power, they conquered the world solely by virtue of their faith. The Church founded upon this faith embraces to this day, or better, embraces already, one third part of mankind. All civilised races are running in the paths of Christianity, or are turning toward these paths. These are striking facts, but historically incontestable.

Now what was the content of the faith promulgated by the disciples, which for the last two thousand years has pursued its ever-widening triumphal course through the world? Jesus is risen and has been raised by God to be ruler of his kingdom and in time to come judge of the world in God's stead! Resurrection and ascen-

[1] Translated from Professor Schwartzkopff's MS. by W. H. Carruth.

sion! These from the very beginning of Christianity constitute the real content of its Gospel. It is the belief in the risen Jesus ascended to the right hand of God, which has conquered the world. There must be in this belief, therefore, an effective religious force with which no other on earth can be compared. But in what does this lie?

If we wish to obtain pure gold we must first separate the slag from it. The divine, the innermost content and highest goal of the truly human, always appears in history involved in human forms. Being more or less superficial these possess for the divine kernel at most but the significance of a hull. Their function is to preserve and transmit it. But they must be removed if we are to attain perfect clearness regarding the kernel itself. A man is crucified and laid away in the grave. He rises out of the grave on the third day and walks upon his feet. He appears to his friends, shows those who doubt his bodily reality that he is no ghost, but has flesh and bone, mingles with them and finally leads them up into a mountain. Thence he rises into the air before their eyes, and disappears behind a cloud. What a precious kernel! What a childish hull!

There are still Christians even in Germany, as recent events show, who are unable in this matter also to distinguish between hull and kernel. They accuse those who undertake to purify the gold of its slag of depreciating the gold. Shall we allow these pious but unintelligent people to persuade us to call the slag pure gold? Or on the other hand, shall we throw away the gold? It is not to be denied that the belief in the resurrected and risen Christ appeared among the early Christians in the childish conceptions of their time and people. They were not able to free themselves entirely from sense and materialism in their view of Christ's resurrection. Can we wonder at this, when it is not yet entirely possible for many Christians even two thousand years later? Yet it will be possible to show that these sensual conceptions are not really the force which has brought a world to the feet of Christianity. This power was due alone to the divine reality which was hidden under such views. And nothing but this can accomplish the same work

to-day. What this force is I now propose as a theological specialist to explain in outline to the readers of this journal.

In order to do this we must first of all make clear the meaning which the contemporaries of Jesus attached to the resurrection in general, and next establish the facts in connexion with the resurrection of Jesus. Both of these are historical phenomena. Accordingly they are to be ascertained in but one way, that of historical investigation.

THE CONTEMPORARY MEANING OF THE CONCEPT OF THE RESURRECTION IN GENERAL.

Let us first examine the sense in which the contemporaries of Jesus conceived the idea of a resurrection in general. All primitive Christians understood by it the reanimation of the material body, followed by a certain transfiguration of it and by the real act of resurrection as a bodily rising and coming forth from the grave. In all this the body remained, in the thought of the people, more or less material. Furthermore, the resurrection of pious Israelites implied in the Messianic theory the entrance into the kingdom of consummation, the transfigured earthly realm of the future king of the chosen people. This kingdom was to come with the last day, that is, at the moment of the consummation of the world, when God established it through the Messiah (John xi. 24).

The idea of the resurrection of the earthly body and a subsequent transfiguration has accordingly no claim to be regarded as an independent revelation of Jesus Christ. On the contrary, he found it already existent as a Pharisaic tradition. It is beyond question that he accepted this idea in the main, as he received from the Pharisees essentially their whole body of views regarding the kingdom of God. Nevertheless there is need of examining in detail how far such conceptions, which were transmitted to Christ from an imperfect stage of revelation, are authoritative, for of themselves they cannot possibly make any such claim. Consider, for instance, the notion of evil spirits ('dæmons') likewise adopted by Christ, and certainly not merely as a matter of conformity. If we were to put without qualification the knowledge of divine things which God

has given to Jews and heathens on a par with the special revelation of God made by Christ, we should be assailing the unique value of the latter.

JESUS'S PROPHECY OF HIS RESURRECTION AND THE DISCIPLES' NOTION OF IT.

As opposed to the above considerations it might be urged that Jesus prophesied his own resurrection in the popular sense, and that this necessarily gives a higher significance to the notion of the resurrection. How far this assumption is correct can be estimated only by examining this prophecy at least briefly. Whether any importance attaches to the details of the form in which it appears in the synoptic Gospels may remain an open question. But it is a fact that Jesus prophesied something of the sort. This cannot be denied, and this is really what is important.

Our Lord could not but expect his resurrection, for he was conscious of being a pious man in close communion with God. Now God is not a god of the dead, but of the living. Through the love by which Jesus was most intimately united to God, he shared in the love of God. He felt that his intercourse from person to person received by virtue of this love great worth even in the eyes of God. How then could he have expected to remain in death?

But more than this: Jesus was conscious not only of being a pious man, but of being the Messiah of Israel, the king of the coming kingdom of God, in God's stead and with God's authority. Now in the view of the Jews of that time it was for the Messiah (as "Jinnon") to bring about the resurrection of the other pious dead. But in case he died before the completion of this work of salvation he must necessarily, as head of this kingdom, first rise from the dead himself before he could accomplish the resurrection of the others. (This must suffice here concerning the communion of Christ with God. We shall return to the subject later.)

The especially faithful might enter Paradise, or "Abraham's bosom," even before the resurrection of their bodies. But into the kingdom of perfection to come only one door opened: the resurrection. In the opinion of that time this was the only manner in which

one could share in true immortality, that is, eternal life in the kingdom of God. Thus Christ on the cross promises the thief to be with him in Paradise "this day," but is not to be resurrected until the third day.

Is it an occasion of surprise that even Christ regarded this entrance to the perfect life after death as a bodily resurrection from the dead? What is religion? Is it the inner life of the moral personality in God? Or is it the knowledge of certain outward forms by which one may attain to this life? Christ possessed even here on earth the divine life in the greatest perfection accessible to mere man. He was therefore on the strength of his present experience absolutely sure of this life in communion with God for the future also. How the transition to the transfigured state of the kingdom of God was to take place in detail was from the ethico-religious point of view a matter of indifference. For Jesus it assumed the form of the Pharisaic notion of the resurrection which tradition gave him.

He had no occasion to examine it critically, for it was flexible enough to contain without wronging it the religious thought revealed to him by his Father. But for this very reason Christ's authority cannot be appealed to without argument for the complete correspondence of this Pharisaic view with the reality.

In this connexion we can understand also why Christ made no changes even in certain more important features of that Pharisaic view. There must needs have been some especial occasion for making such changes.

And so, when he prophesied his own resurrection, he could scarcely refer it to any other period than the dawn of the kingdom of perfection. From of old the prophets had set this kingdom of perfection at the end of their own time; the generation in which they lived was to look for it. But Christ was the first to have the complete inner justification for such an assumption, for he was conscious that with him the Messianic time had come, at least the foundation and dawn of it (Luke iv. 21; x. 23; xvii. 21). He himself in his own lifetime brought in the kingdom of God, at least inwardly (Matt. xii. 28; xvii. 26). How then should he con-

ceive the thought that between the dawn and the completion of this kingdom thousands of years might pass! He was no historical specialist of the nineteenth or twentieth century. Even Paul, perhaps the best educated and far-seeing theologian of his time, expected almost steadfastly the dawn of the kingdom and the return of the Lord in his own time. And yet he intended personally to convert beforehand the principal leaders of paganism in the known world of his time. With how much more reason might Christ expect his own return for the establishment of the kingdom in his own generation (Mark ix. 1, etc.), especially since, following the older prophets, he seems to have conceded the admission of the heathen to this kingdom only as a result of this sudden and mighty demonstration of divine power (Luke xvii. 24). At least the son of man was to come again before his disciples should have entirely finished their missionary work in Israel (Matt. x. 23; Luke xviii. 8). The opinion that this return of Christ was partially fulfilled in the destruction of Jerusalem is a distortion of ideas wholly without foundation in the New Testament.

And although with reference to the time of his return he accepted the erroneous notion of all the prophets, and did so with more justification, this fact did not affect the truth of the religious content of that notion, which was, that Jesus is regarded as the judge of the world. How justly can be shown only in the last section of this article, where we propose to examine more closely the belief in Jesus as a saviour.

It is sufficient to say that Christ, like the rest of the Jews, expected his resurrection on the Last Day. But he sets his resurrection for the third day. Accordingly this number is to be understood figuratively for a brief period, a symbolism which is not unusual in Christ's expressions elsewhere. Indeed, in the expression "the third day" he is plainly quoting the prophet Hosea, who also evidently meant his remark about a "revival after two days" and the "resurrection on the third day" in the more loose sense of a short time (Hosea vi. 1 ff.).

The disciples, indeed, in their childish superficiality could scarcely understand such a prophecy otherwise than literally. And

accordingly, when they had recovered their composure, they could not fail to expect its fulfilment, though of course with fear and trembling, on the third day.—In this we have been concerned first and foremost to prove that the notion of the early Christians and to some extent of Christ himself regarding the resurrection as of a bodily rising from the grave corresponded indeed with the contemporary notions of the Jews, but yet, considering the method of its origin, that it is by no means authoritative presumptively and in every point.

Having thus established the meaning of the notion of the resurrection, we must approach the historical facts on which the belief of the first Christians in the resurrection of their master was founded. Its two supports are, as may be shown, the empty grave and the apparitions of Christ.

THE EMPTY GRAVE AND THE RISING FROM THE GRAVE AS SUCH.

It is highly probable that the grave of Christ was found empty a short time after his crucifixion. Even though unessential details of the discovery of the open tomb are reported differently by the different Gospels, there is no doubt about the affair itself. How else should the rumor, reported by Matthew, have spread and persisted among the Jews, that the disciples had stolen away the body of Jesus? It would be meaningless if the fact of the removal from the tomb were not established. On the contrary, if the enemies of Jesus could have demonstrated his permanent continuance therein they would have done it, despite the Jewish dread of corpses, and especially the judges of Jesus, who by the public testimony of the disciples were thrown under urgent suspicion of being Messiahcides. Only by showing the body in the tomb could they refute, and that at a single step, the announcement of the resurrection of Christ from the dead.

Moreover, the tomb must have been empty on the third day, for this point of time is regarded already by Paul as the day of the resurrection. And yet he can have received it only from the leaders of the young Christian congregation in Jerusalem, who must have known the facts in the case. And this would have been not later

than the occasion, about four years after the death of Christ, when he visited the "pillars," so-called, that is, the chief apostles, in Jerusalem.

But the belief in the resurrection could not rest upon the empty tomb alone. The Lord must also have appeared to his faithful ones on the third day. But an appearance of Christ while his body still lay in the grave would never have passed with the people and the disciples as a satisfactory proof of Jesus's resurrection from the grave, for, as we have already seen, the resurrection was for the people a resurrection from the grave.

The matter of the empty tomb is so much the more important, because we cannot show that the disciples who saw the apparition were no longer in Jerusalem on the third day. In so short a time they could scarcely have been in Galilee. And this is the only point in consideration, for the reports give all the apparitions as either here or in Jerusalem.

A hasty flight of the terrified disciples into Galilee, if indeed there were any historical foundation for it, must needs have taken place directly after the arrest of Jesus. Now the Scripture does indeed tell that the disciples were scattered after the arrest. Yet not only John, but Jesus's leading disciple Peter, ventured soon after into the very courtyard of the high priest, whither Jesus had been taken. And John, as well as his mother—mother also of the younger James—and other Galilean women were present at the crucifixion. It is not likely that their natural protectors were far away. Even if the most of them were at first dispersed, it is probable that they concealed themselves in Jerusalem or in the immediate vicinity.

In any case there was no ground for a headlong retreat. No violent hand was laid on either Peter or Paul at this time, when once the master had been taken into custody. Accordingly it is not likely that even Peter, despite his denial, fled directly after to his home.

And even if we admit the probability of this flight, he and his comrades cannot easily have reached their old home by the morning of the third day, nor indeed at any time on the third day. And

if, accordingly, the disciples were still in Jerusalem on the third day, then there is so much the surer proof that the tomb must have been found empty.

The question how Jesus's body came to be out of the tomb cannot be answered with certainty. If we do not accept a real bodily resurrection from the tomb, all that seems to me to be left is this. It is out of the question that any one from the more immediate circle of the disciples could have removed the body. What arrant deceivers they must otherwise have been! To attribute such an action to them would amount to an unwarranted calumny. The enemies of Jesus, on the other hand, were interested in seeing that the body remained in the tomb, for the removal would give rise to the before-mentioned penal difficulties for them. (Acts v. 28, 33.) It is barely possible that some one from the less immediate circle of the followers of Jesus may have done such a thing, in order, perchance, to obtain a sacred relic in the superstitiously revered body of the master. For even from his living body there proceeded a miraculous power according to the view of many of the common people (Luke viii. 46; Acts v. 15 and 19). Worship of this kind was nothing unusual in those times. But, as was said, certainty on this point is scarcely to be attained at this late day.

If, however, the body was not removed from the tomb in some mechanical way, then it seems as though nothing but the bodily resurrection could solve the riddle of the empty tomb. If only this notion did not itself involve such great difficulties! It is not, of course, a doubt of the omnipotence of God that troubles us. It is only a question whether it can be proven that God actually did cause his son to rise and come forth from the grave. A motive for this course would seem very plausible in the desire of the Almighty to justify him as the Messiah in the eyes of his followers. But did this actually take place?

If we could give full credence to every word of Scripture the question would be settled. But close examination shows that the various reporters of the story of salvation were by no means proof against every error of interpretation. And here lies the difficulty.

Not a single disciple was an eye-witness of the resurrection so

far as Scripture informs us. Rather, they were enabled to infer it merely from the fact of the empty tomb, as before remarked, and from the Christophany. And so it becomes a matter for the conscientious investigator to test the validity of these inferences. I shall return presently to the inference from the Christophany. Meantime I will consider briefly how a bodily resurrection from the grave, supposing that such really took place, is to be conceived. We will simply ignore the crudest conception of contemporary Judaism. In this the door of the tomb had first to be opened by an earthquake in order to make possible the exit of the body which was imagined in all too material a form; only after having come forth from the grave was the body transfigured according to the Jewish notion. But in what could the transfiguration consist?

In this view all the weight is laid without doubt upon the identity of the transfigured body with the body that was laid away in the grave. It does not recognise the question whether the living spirit of Jesus Christ might have received from God another and spiritual corporeity, or perhaps even a more spiritual organism. But yet we must have some clear notion in connexion with the transfiguration of the body that was laid in the grave; otherwise the word would be without meaning. And in any case it must in this view signify a transformation of the earthly elements into something celestial.

But how? The Church has always insisted upon the true humanity of Christ and accordingly of his body. Therefore the chief constituents of his inhumed body could have been only the same as in other men: carbon, nitrogen, water, lime, phosphorus, etc. Accordingly we should have to regard these elements as "transfigured." Now let some one suggest a reasonable meaning for such an expression; otherwise I do not see how such a transformation can escape the reproach of being meaningless. Either the oxygen, carbon, etc., must remain material, or they cease to be oxygen and carbon. But if these elements remain material, then it must be the same with the body composed of them. And if material, then perishable also, earthly, mortal. And yet we wanted to attain an immaterial, imperishable, celestial body.

On the other hand, if in place of these material elements and of the body composed of them there appear celestial elements and a celestial body, then we have something entirely new, which has nothing more to do with the old body. And thus the desired identity of the body is destroyed. Not, however, the identity of the spirit. But it appears to be self-contradictory that a material body should retain its identity and yet be transformed into an immaterial body. Accordingly there is a primary difficulty in the fact that one cannot, so far as I see, think of the resurrection of the body of Jesus that was entombed even as a transfigured body without absurdity.

This absurdity seems to be removed if we substitute, with Paul, for the transfigured material body a spiritual body, a dwelling from heaven (2 Cor. v. 1 ff.). True, the Apostle does not hold to this thought exclusively, for he did not entirely free himself from the accompanying notion of a change of the earthly body into a celestial body (1 Thess. iv. 17; 1 Cor. xv. 51 ff.). However, this other conception remains at least vague. If a body from the new world is to be organised upon us, it could consist only of potency-monads of a lower sort. These would be appointed to serve as medium of communication between spirits. But how else is one to conceive of such lower force-nuclei than as not purely spiritual entities,—that is, of a material nature, even though more refined?

However, there is difficulty in conceiving what need there can be for a body as intermediary substratum for a perfect spirit, even though it be finite. God, who is spirit, embraces and sustains the whole universe. Human spirits will, to be sure, remain forever finite. But yet they become perfect in their kind. And thus the operations of human spirits, even when transfigured, will remain relatively limited. But the necessity for a material medium of communication for them in a no longer material world is not evident.

Even in our material world the ultimate connexion of the spirit with the central nerve-termini is necessarily immediate. For the relation of the spirit with the material substratum which serves as

medium for its communication with the rest of the outer world cannot in its turn be mediate.

But even if a transformation of the material body of our Lord into a body of glory seems inconceivable, yet one does not like to think of the body of Jesus Christ as dissolving into its constituent atoms. It seems to us, because of our inherited views and feelings, like a sort of desecration, and yet there appears to be here too a vague thought at the bottom of the feeling. If Christ was true man, then he had flesh and blood such as we have; but flesh and blood cannot inherit the kingdom of God, the perishable cannot take on immortality (1 Cor. xv. 50).

If, as the Gospels declare, the body of Jesus Christ received nourishment, grew, hungered and thirsted, was overworked and exhausted, and sank down half dead under the weight of the cross, then it was subject to all the transformations of perishable elements. Then, too, the ultimate complete exhaustion and dissolution of it in death was inevitable. Being human, Jesus was not only liable to die, but he must needs sometime die, unless God endowed him with a new and imperishable organism. It has long been established by the investigations of physical life that sin of itself does not cause the death of the body, though it may do much to hasten it. On the contrary, dissolution as such is a natural and necessary process. Transient elements cannot have immortal life. Death is the reward of sin, but eternal death, not natural death. Such a death betokens the complete separation of the human spirit from the source of life in God. It is sin alone which gives even to natural death its sting (1 Cor. xv. 56). In this deepest religious sense the Son of God could not die, even if he was compelled to leave behind this imperfect organ intended for communication with earth.

It is the sin of the world which gave to Christ's death also its fearful sting. His physical death and its necessary consequences cannot in themselves confuse us, for his living personality in God was entirely superior to his death. Indeed, the separation of the spirit from the perishable elements of the body is a condition to the entrance upon a higher sphere of life. Therefore it seems to

me that it is a right and a duty to put aside on this point all æsthetic and semi-sentimental feelings. With clear insight we must free ourselves from the opinion that the dissolution of the body of Christ into its earthly elements can involve any possible violation of the dignity of his divine personality.

Such an anxiety is permissible only for those who really reject the true humanity of the Son of God with its inevitable consequences, which is distinctly taught in the Bible. Indeed, there are many who assume, though perhaps without very clear notions of the subject, that the Son is one and the same person with God the Father. Of course from this point of view it is impossible that God the Father should pay the debt of mortality. But on the other hand it is utterly unbiblical to teach that the Son is the Father. The Father has no body, but is pure spirit. Thus and for this reason only is he in every respect superior to mortality. But Christ had a human body. Thus as true man he had, at the age of thirty-five, by the constant elimination of the material elements which he had taken up from his material environment, put off his entire body in all its essential parts some five times. Even if the bony parts endure somewhat longer, they are much less intimately associated with the imperishable essence of the spirit than are, for instance, the perishable nerves which are its immediate organ.

How then should any one take offence at the thought that the Lord finally laid aside his mortal body entirely, exchanging it for a perfect, celestial organism? Or is it any more in accord with the dignity of Christ that God permitted his body to be tortured to death than that he surrendered to the peace of the grave its lifeless hull, permitting there the dissolution of the perishable body to proceed to its natural end? Is not decay the natural result of all true death, of death that is not mere trance? If it can be proven that the body of Christ did not decay, I should be the last to deny it. But if this is not supported by incontestable certainty, then I cannot see why our Saviour, who as a true man became like us in every respect excepting sin, should not have shared the lot of all true men in this respect.

And even if natural death in itself were to be regarded as the

reward of sin, it is simply death itself. Even the Scripture says nothing of the sort of corruption. It is merely the natural consequence of death.

THE PLACE OF CHRIST'S APPEARANCES.

We have examined one of the supports upon which the contemporary form of the belief in the resurrection rests, I mean the fact of the empty tomb. At the same time we considered what the resurrection of Jesus Christ from the tomb must imply, in case it actually took place. But yet, the belief in the resurrection of the Lord would never have entered into the hearts of the disciples, if there had not been another support for it. And this other seems indeed to be much more forcible than the first; I refer to the appearances of Christ to his followers. We come now to consider these specifically.

It may be accepted to-day as settled that various disciples and Paul also had real Christophanies. The only question is, of what nature these appearances were, and when and where they occurred. In this point the recorded accounts present unfortunately very considerable difficulties. As for the place of the first appearances, it is well known that they were in Galilee according to Mark and Matthew; but in Jerusalem according to Luke, the Acts, and John xx. The twenty-first chapter of the Gospel of John, the body of which was appended somewhat later, does indeed contain references to later appearances in Galilee. However, this does not affect the argument for our purpose inasmuch as only those Christophanies are to be considered which could have influenced the origin of the belief in the resurrection. The attempt has been made to harmonise these opposing reports by connecting them with "as well as." But it should be observed that both the Galilean appearances in Matthew and those in Jerusalem in Luke and John xx. claim to be first appearances. Matthew reports the disciples as seeing the resurrected Christ upon the Galilean mountains, whither they were directed to go by the angels that announced his resurrection (xxviii. 16ff.). But according to Luke the Lord appears on the very day of the resurrection to the disciples at Emmaus (chap.

xxiv. 13 with 1); these start the very hour that Jesus takes leave of them (33) to return to Jerusalem. And here they find the eleven assembled in the evening of the same day, who report to them the appearance to Peter as something that had already occurred (34). But even while they are speaking the Lord himself appears among them (36). After demonstrating that he is alive, he gives them his last authoritative directions for their preaching the Gospel—"beginning from Jerusalem unto all nations." He commands them expressly to remain meanwhile in Jerusalem until they shall receive power from on high for their calling (49). This they received, it will be recalled, at Pentecost. And then, with an easy change of subject the account goes on, literally: "And he led them out unto opposite Bethany, and lifting up his hands he blessed them. And it came to pass, while he was blessing them, that he withdrew from them. And they for their part returned to Jerusalem with great joy, and lingered continually in the temple, praising God." (50–53.) The connexion here shows every unprejudiced reader that this separation of the Lord from them, after giving them his last missionary injunctions and blessing them, is intended to be final, in a word, his ascension. And this is confirmed by the concluding paragraph of the book, which reports in general their further course, to-wit, that in accordance with the command of the Lord they waited (until Pentecost) in the temple at Jerusalem. Thus for the Gospel of Luke any first appearances in Galilee before Pentecost are absolutely precluded.

John too, in the twentieth chapter, places the appearance to the eleven on the day of the resurrection and in Jerusalem (19). Then indeed he tells of a second appearance to the eleven in the presence of Thomas in the same place. The Acts also has Jesus appear to his followers during the forty days after Easter, but also gives them express command not to leave Jerusalem before the reception of the holy spirit.

Thus the two versions, Matthew on the one hand, and Luke and the Acts on the other, are mutually exclusive. It is not possible to harmonise the Gospels of Matthew and of Luke in this point. One can make up his mind either that the actual and orig-

inal appearances of Christ took place in Jerusalem or in Galilee. A recently renewed attempt of the Middle Ages, lacking adequate foundation, locates "Galilee" as a tavern for Galileans on the Mount of Olives, but it must be regarded, unfortunately, as a failure.

Now if the disciples were, as we found, in Jerusalem on the day of the resurrection, we shall be compelled to assume that Luke was right, and that the first appearances took place there. Later appearances in Galilee are not precluded by this. But those which influenced the belief in the resurrection took place in Jerusalem.

THE NATURE OF THE CHRISTOPHANIES.

Now, however, we shall be obliged to subject the appearances themselves to a closer examination. The oldest source, reaching back to the reports of eye-witnesses, is the Apostle Paul. He collects at the beginning of the familiar fifteenth chapter of 1 Corinthians the reported appearances (1 Cor. xv. 3; Gal. i. 18) and his own. These are historically established. (Here the various interpretations of some of them have no weight.) Of these the appearances of the Lord to Peter and the eleven are confirmed further by the synoptics, and the last by John as well.

Of the other appearances which the evangelists report, some may be doubtful. If, for instance, as according to the close of the Gospel of Luke,—not, indeed, in the Acts, which here is in strong contradiction with Luke,—Christ finally ascended into heaven on Easter day, then the appearance to Thomas on the Sunday after Easter falls to the ground.

As for the nature of the Christophany, the notion of Paul is more consistent and logical than those of the evangelists, especially of the synoptics. Paul, as we have already seen (1 Cor. xv. 44 ff.), in accordance with the incidents of his conversion near Damascus, has the Lord appear in a spiritual body. Indeed, he ventures frankly to describe the transfigured one as "the spirit" (2 Cor. iii. 17). Contrasted with this the conception of the less cultured primitive Christians, which finds expression in the Gospels, shows a mixture of material and spiritual features, according probably with the Pharisaic notion on the subject. Squarely material and in striking

contrast to the idea of Paul is the view of Christ's transfigured body which represents the Lord as not only having Thomas feel of him, but as even eating of a baked fish, and this for the very purpose of proving that he was no spirit, but had flesh and bones (Luke xxiv. 40–43; John xx. 24). Every thinking person must see the consequences of this. The object of Christ's demonstration is quite clear here, that is, to show that his transfigured body in its organs and its functions was entirely similar to his former material body. It has flesh and bone, and therefore a muscular and an osseous system, and this in reality and not merely in appearance. To deny this would be ascribing a deception to Christ. In like manner, his eating cannot be regarded as fictitious. But for real eating of material food the well-known organs are indispensable which provide for its reception, digestion, and elimination. So we have to do with actual metabolism, and this, as we have already seen, is the very expression of the perishableness of the elements of the body itself. For if they were not perishable they would neither require nor permit metabolism. And thus the body itself is shown to be perishable and mortal. This in turn is in radical contradiction with the assumption of a transfigured corporeity, which in its very nature must preclude all transitoriness.

But such a view is not to be reconciled with certain other attributes ascribed by the same reporters to this same body without being conscious of the impossibility of such a combination. For on the other hand, this material body possesses also purely spiritual characteristics. It passes through closed doors, and is in places far removed from each other at the same or nearly the same moment. Although it suddenly stands among them, it vanishes just as suddenly (Luke xxiv. 34, 35, 36 and 31; John xx. 19). I will say nothing of the fact that the Lord seems even on occasion to assume the form, garb, and bearing of another person, as in the account of the appearance to the disciples at Emmaus.

But this much appears already as incontestable, that the gospel of salvation cannot be based upon the veracity of such mutually contradictory utterances. In fact, the true faith in the resurrection cannot suffer any real harm even from such absurd notions. But

even from this point of view there is no advantage to be found i such confused conceptions as compared with greater clearness o perception. Yet at the same time such contradictions in the view o the primitive Christians with reference to the appearances as ar expressed in the reports of the evangelists lead to this highly im portant conclusion: The reliability of their interpretation of th events of Easter must be recognised as having its limitations Thence arises for thoughtful Christians of our time the duty of pen etrating as far as possible into the indisputable historical germ o the matter by honest investigation of the case and comparison o the differences and contrasts in the accounts.

Perhaps the assumption will be made that the view of the ac tual witnesses of the resurrection has been somewhat dimmed b the report of the evangelists. But in any case the clearness of th other witnesses of the Christophanies can scarcely have been s great as that of the Apostle Paul, for he is conceded to be one o the most gifted and cultured minds of his time. And yet we canno ascribe even to him an absolutely authoritative opinion on th question whether the Christophanies represented inward or out ward realities.

We here touch the deepest point of the primitive Christia view of the nature of the Christophanies. A man of our time wh understands anything of psychology will scarcely agree with Pau in the notion that the spirit of a living man can be snatched out o his body up into the third or seventh heaven. And yet he is posi tive that this happened to him in the course of his visions and rev elations. He is in doubt only as to whether his body was perhap taken along (2 Cor. xii. 2–4). Such then is his conception of th ecstatic vision. Will he be able to answer positively for the out ward reality of a Christophany which befell him as he lay prostrat on the earth deprived of the power of sight (Acts ix. 4, 9)? Or ma not, here too perhaps, an inward appearance or so-called "vision have occurred?

The chief difficulty in conceding at least the possibility of thi lies in a confusion of ideas which has not yet been wholly ove come. The fact is ignored that the expression "vision" determine

nothing whatever with regard to the actual reality of its content. Whether this is real or imaginary is a question which has nothing to do with the formal character of the vision as such. There are real thoughts and false thoughts; real dreams and false dreams. Now a vision is a sort of dream experienced in a waking state. The dream is a notion which has become embodied through intense spiritual absorption. If there is a reality corresponding to it, then the dream contains truth; otherwise not. There are dreams of the conscience, dreams of revelation, prophetic dreams. Their truth is precisely the same as if their thought-content should meet the spirit when awake. Thus a vision of Christ to the Apostle Paul may have been the expression of the actual state of affairs, to wit, that the Messiah, transfigured by death, had been perfected unto his celestial glory. In that case the truth revealed to Paul was not less, but rather the same as though Christ had met him in bodily form. Even the latter evidence was only an objective confirmation of the testimony implanted by God in the heart, that Christ had not remained in death, but had been taken up into heaven as the living Messiah. Only faith could implant this testimony. Otherwise the disciples might have seen in this appearance only a delusive vision of him who is able to clothe himself in the garb of light. Here too the revelation of Christ as such could be only an inward one. Therefore Paul rightly characterises it as one "within" him (Gal. i. 16). Hence this alone gives to the appearance its unique significance. The Apostle recognises that his calling is firmly founded upon that divine influence upon his heart, and not upon the presentation of the same before his sensual eye. (1 Cor. ix. 1.) It is this which ranks his Christophany as of equal value with those of the immediate eye-witnesses. Of course it is not claimed that the Apostle made this abstract distinction with complete clearness. But yet there lies in the revelation of God which came to and converted the heart of Paul the feature which gives to his Christophany its religious value.

Accordingly, while the correctness of Paul's opinion regarding the psychological form of his Christophany may be called in question, the fact of the resurrection in the sense of the victory over

death and the Messianic perfection of Christ is not affected by such a doubt. And it is this content which makes the vision, if we must assume one, an objective vision. For a merely subjective vision, that is, a mere human fancy instead of the supernatural reality of an actual revelation of God is not to be thought of. The objectivity of the revelation is, as will appear later, guaranteed by the divinity of the personality of Christ himself.

True, our knowledge of supernatural things is too imperfect to warrant an unqualified denial of the possibility that Christ may have appeared to the disciples and Paul in bodily form, notwithstanding all the objections which we have considered. But even if this really happened, historical certainty on the subject, as we have seen, is no longer to be attained, for it has been shown that even the Apostle Paul was not qualified to give an authoritative opinion on such matters. Therefore, even if this fact may have had a certain importance for the first disciples, this importance cannot be the same for us, in view of the uncertainty of the facts in the case.

To be sure, if the apparitions were only inward, there is an error involved on the part of the witnesses, but not, as we have seen, an error that touches the religious fact. This remains the same, in one case or the other. The error would touch only the psychological opinion regarding the nature of the appearance of a given revelation which in either case is inwardly true. But no such purely psychological error could possibly cause any material harm in respect of religion. For instance, the general error of the primitive Christians in expecting that Christ would come again in their own generation did religion no considerable harm. On the contrary, the constraint of so living as if the judge might appear at the door any day gave to their faith and life a deeply serious and heroic, if somewhat fantastic, character.

The following consideration might also lead to the acceptance of an objective vision as the form in which God may have given to the first Christians the revelation of the resurrection. Even the possibility of the appearance of a spiritual body seems open to certain especial objections. I will refrain from considering here the

already mentioned difficulties connected with such a body in itself. In any case, a revelation of it to earthly men would needs take place in the same way in which as pure spirit Christ would make himself known. But if we conceive of the spiritual body as a reality of organically combined spiritual activities and functions, having in the personal spirit their comprehensive and unifying source and central substratum, then it appears to be entirely possible that this spirit shall affect the heart and conscience of earthly men from within and reveal its spiritual life to them thus. It is thus that God always works, as a spirit. In the acceptance of this influence lies the receptive side of faith. Then the "objective vision" would represent the sensual reflex of that faith in the heart.

But how is it possible for a spirit so to affect from without the sensual side of man that the resulting outward image shall express its true nature? True, the human spirit still dwelling in the body is able to make itself understood to one of its own kind from without, and to incite it to the creation of images by means of sensual stimulants. These represent its nature in certain respects; not, to be sure, as it is absolutely, but they enable it after all to manifest itself symbolically. But it will be different with a spirit perfected to celestial perfection. For such a one will not be able to express its deepened and elevated nature by the same sensual and earthly symbols with even approximate adequacy. On the contrary, he could express it to an earthly man evidently only with the most inadequate symbolism. But under these circumstances what advantage has the appearance of a spirit from without over its influence from within?

Why is so much stress laid anyway upon the exterior manifestation as such? Is the deepest and highest reality to be found in the outward world, as the materialists maintain? Is it not rather within? Is the physical life superior to that of the spirit? Only a presumption to this effect would support such an unqualified precedence of the outward as compared with the inward reality.

After all that has been here said this much is evident, that the significance and the permanent value of the belief in the resurrection cannot lie in the manner in which the resurrection was accom-

plished, or in which Christ appeared to his followers. Whether Christ's body dissolved in the tomb into its earthly elements, as in time our own will do; or whether he came forth from the tomb in a semi-material or spiritual body; whether he revealed himself to his disciples outwardly or only inwardly, cannot be proven positively historically and psychologically, that is, in the only way customary among us. Indeed there appear in this connexion for the unprejudiced thinker difficulties of detail, even impossibilities and absurdities. But whether it was thus or thus, the permanent significance of the belief in the resurrection is not in these details, and cannot be. Accordingly it is in order at the close to consider wherein this permanent significance really consists. To do so requires scarcely more than a collocation of the thoughts brought forward in the preceding pages.

THE PERMANENT SIGNIFICANCE OF THE BELIEF IN THE RESURRECTION.

The belief in the resurrection is at bottom the very same faith which the disciples had before the resurrection. Afterwards as before it centers in the Messiahship of Jesus. Only with it that faith assumed its complete form. Consequently, if we wish to attain a clear conception of the belief in the resurrection, we cannot evade examining briefly the nature of the belief in Jesus in general. Faith proper is recognised as being a religious conception. Therefore in this sense man can have faith in God alone, and in Christ only in so far as we see in him the mediator of salvation, the perfect instrument of the revelation of God.

It cannot be denied that God had instruments for his revelation before Christ. Moses, the prophets, Socrates, and Buddha were such. But the revelation which Buddha had to offer the world, made indeed in the very might of Him who creates all good, was predominantly ethical. Its religious springs lay within the realm of the unconscious, and accordingly these sources have almost gone dry. The weak, specifically religious instinct degenerated into pantheism and polytheism.

The divine voice which spoke in Socrates, likewise, was to some extent more an inspired, practical instinct than a pronounced, ethico-religious authority. And his notions of the unity of God and of the true life after death have from the start an individual stamp which prevented their exercising an extensive inspiring force. Thus no real religion sprang from the philosophical system of the practical, ethical thinker of Greece any more than from the anti-social renunciation of the world preached by the aristocratic Indian.

In Christ alone do we meet historically a divine consciousness of unmatched depth, earnestness, purity, and confidence, consciousness of God resting not alone upon thought and feeling, but dominating the entire volition, and expressing itself in life and action. The very spirit of God assumed flesh in this marvellous man. The religious consciousness of the historical Jesus as presented to us in the writings of the New Testament is such that he appears to be the only man in history, who in prayer and in faith recognised as a father the spirit who pervades, sustains, maintains, animates, and guides the universe. And the unique character of the relation we here observe consists, to look at it more closely, in the fact that the fatherhood of God fixes and characterises in its very foundation the relation of Christ to him. And yet he does not regard this filial relation as his especial privilege, although he does not find it realised in any other human being. True, he knows himself to be the sole knower and revealer of the divinity, but for this very reason he saw himself called to bring his followers into that relation of intimate personal communion with God (Matt. xi. 27). Thus he teaches his disciples to address God as "Father" in their prayers, and commands them to become perfect even as their Father in heaven is perfect.

While we cannot here go into this subject more deeply, what has been said is sufficient to show that Jesus, in calling God "Father," thereby expresses his perfect confidence of his election and of the protection and love of God with reference to himself. He experiences this love in his heart; it pervades his whole life, prompts his will, impels him to his every act. In it he thinks, lives, moves,

and has his being; it is the native element of his piety, which consists in perfect filial faith, that is, in resignation to that love with all his powers, mind, spirit, and will (Mark xii. 30). In this faith he finds the strength for his perfect life of love unto his death. Every unbiassed judge finds the key to Jesus's wonderful life as we have it displayed in all essential respects in unimpeachable passages in the Gospels to be in this perfect and absolutely unalloyed union with God.

This unique experience of God accordingly gives him that lofty prophetic consciousness which the "meek and lowly of heart" unquestionably possesses (Matt. xi. 29). True, he never parades the loftiness of his personality, as does Buddha, who with all his excellence is not to be acquitted of all arrogance. And this is quite in accordance with the difference in the basic attitude of the respective religions. Buddha is conscious of having the highest principle of the world within himself. Whether there is beyond this a personal God he leaves an open question. In consistency he would have to deny it. In fact, he must regard himself, the self-conscious personality, as the saviour of the unconscious universe. For without consciousness there is no salvation. And the foundation-principle of the world is unconscious. True, on the other hand, the goal of salvation is the return to the state of unconsciousness. But surely a religion without humility lacks its living soul.

Christ, on the other hand, knows his perfect dependence on God, the sustainer of his whole being. He came to do not his own, but God's will. To this he submits in the most fearful torments, and even when he can no longer comprehend it! He summons men to himself only in order to lead them to God, the father of all, who, though in a higher sense, is also his own father. His whole function in life consists in nothing else than in accomplishing the salvation willed by his Father.

Now this calling makes him the founder, initiator, and vicarious ruler of the kingdom of God. But in the spiritual figure of the Son of Man, who appears before the "ancient of days" in the clouds of heaven, and who receives from God himself out of heaven the commission as vicar of God's rule, he finds the prophetic sym-

bol of his mission. And so he recognises himself as the Son of God with reference to his primal union with God in love, but as Son of Man, Messiah, with reference to the divine commission to bring salvation. He is aware of this office, though in lowly self-consciousness.

Now this makes him the mediator between God and men, and at the same time the judge of the world. For if he alone is able to bring men into perfect communion with God, then only those can come to God who permit themselves to be brought by Christ. On the other hand, whoever denies Jesus to be the one sent by God must be denied also by the Father (Matt. x. 32 ff., 40 ff.). Therefore the judges who rejected him in their criminal condemnation are one day to receive the sentence of him who shall come in the clouds of heaven (Matt. xxvi. 64). (The form in which Jesus expected his return is of course without religious significance; hence all depends on the content of the same, that is, his actual position as judge of the world.) With this in mind, and in view of his approaching death, Jesus even gave the preference to this characterisation of himself as Son of Man. If by the decree of God he was slain by the enemies of God before the accomplishment of his work of salvation, there could not fail to follow a so much the more glorious realisation of it through the celestially transfigured Son of Man.

A similar inimitable consciousness is expressed at the celebration of the Last Supper which closely preceded his arrest. We may ignore the especial form of the words spoken here. It remains beyond question that Jesus recognised in his death the means which was to seal that new covenant prophesied by Jeremiah (xxxi. 31 ff.) of perfect knowledge of God, union with God, and forgiveness of sins. In this very spirit Jesus proposes to yield up his life, "a ransom for many" (Mark x. 45).

Now such a self-consciousness is either justified or it is presumption carried to the verge of blasphemy. But presumption would cut the very roots of the religious life of the most religious man, which would be in itself a riddle. It would be still more inconceivable how the most extreme godlessness could become the

source of a religion of the greatest reverence, how a blasphemous untruth could become the origin of the purest truth and morality. But if we concede the validity of Christ's claim to that station, the conclusion is inevitable at the same time that none but a morally perfect man could make it. I cannot here enter upon a detailed demonstration of this fact, but I could not abstain from displaying the picture of the moral and religious personality of Christ in its elements, in order to be in a position to appreciate what the belief in Christ, and consequently also the belief in his resurrection signifies. The belief in Christ, then, appears to be the trusting surrender to Christ, as the divinely appointed mediator of perfect union with God, and accordingly the true king of the kingdom of perfection, and as the bringer of eternal life.

The assumption that the disciples could have lost this faith permanently in consequence of the crucifixion underrates the greatness of the impression which the saviour made upon them; it would be thinking too lightly of the power of God over human hearts. Only the admission that the faith in Christ renewed by the spirit of God in the hearts of sincere disciples must needs triumph ultimately, despite its transient defeat, is consistent with our complete faith in the victorious majesty of the love of God in Christ. Even if Jesus had not appeared physically to his followers after his entombment, they could not possibly have lost permanently their faith in the genuineness of his unique divine mission, for the essence of their faith in Christ was sound. But, of course, only from one who had appeared to them after death, could they expect a return for the setting up of his kingdom. Otherwise their faith even at that stage would have burst the form of the popular Messianic expectation. And this would surely not have been done without danger. But the essence of their religious experience, that their master had brought them into communion with the personal God as with a father, would have demonstrated its genuineness by its invincible persistence, and this for the very reason that the revelation of the filial relation to God constitutes the permanent essence of his mission, and accordingly of the belief in the resurrection also. But the Christophanies and the empty tomb were a guarantee,

sensually first of all, of the continuance of the personal activity of the living and exalted mediator of salvation. Thus even these historical experiences of the disciples come to have a share in the religious content of the permanent faith in Christ.

Thus the faith of the disciples was resurrected as faith in the resurrection, and as a matter of course in the forms which the piety of that time had cultivated for this thought. Faith in the resurrection, then, arose upon the basis of the fact that God gave mankind the saviour in the personality of Christ, in whom was contained even while he lived the perfect revelation of God's salvation. This is the truth of the matter, the religious reality of the belief in the resurrection. The permanent significance of the resurrection lies in the demonstration of Christ's eternal mediatorship in salvation.

There is an historical value attached to the particular conceptual forms of this belief in the resurrection, for these constitute the natural vehicles through which they may be adopted by any given age. Now an eternal significance can belong only to a divine content. And this constitutes a genuine revelation. For where divine realities enter into the consciousness of men there the living personal God is at work. He in whom men live and move and have their being was alone able to revive in the hearts of the disciples the true faith in the imperishable calling of Jesus to be a saviour.

Whether the revelation was only inward, or whether perhaps outward also, only the inner one was absolutely indispensable, for faith exists only in the heart. True, this inward faith might receive an outward and sensuous support. But in any case, not simply the outward revelation, but the inward one as well, was the work of the spirit of God, without which no one can believe in Jesus and especially in the resurrected Jesus as his Lord (1 Cor. xii. 3). Thus convincing the disciples by an immediate influence upon their hearts of the eternal victory of their Master over death and sin, God laid the immovable foundation of the Christian Church.

In view of this, it does not appear that any conclusive weight is attached to the question whether the influence immediately emanating from God needs any other especial medium for its trans-

mission, or whether such is to be found in his continued activity in the hearts of the disciples in the way of the revival of their faith in Christ. The only matter of concern is that the influence proceeds from the living God. Even if this effect is brought about in some especial manner, nothing is thereby added to the vital point.

But if the personality of the living Christ in his function of mediator of salvation, which is not invalidated by death but is imperishable,—if this is the only true content of the belief in the resurrection, then the fate of his perishable body cannot possibly become a subject of serious concern in this connexion. Christ's permanent importance lies in the nature and work of his imperishable personality, and not in what becomes of his earthly and therefore perishable body after the soul of Christ had left it. Even if Christ came bodily from the tomb and appeared bodily to his disciples, this cannot add anything essential to the religious significance of the supernatural reality, which we hold by faith. Still less is a permanent significance to be attached to this outward fashion of historical occurrence. The resurrection of Christ from the tomb does not of itself even prove his sinlessness, still less his eternal mediatorship, which is to be judged not carnally, but spiritually.

But if Christ continued his existence, he could continue only as Christ. Accordingly there is involved for the disciples in the revelation of the resurrection of Christ the fact of the ascension as the ultimate goal of the resurrection of the Lord. Christ is now perfected as the eternal mediator between God and man upon the supreme stage of existence. Thus the resurrection and the ascension imply the perfection and the transfiguration of his function as saviour.

But finally the true significance of the resurrection of Christ, in so far as he is our saviour, extends also to our own resurrection and ascent to heaven. If the divine mediator had not arisen, but had remained among the dead, then we should have no guarantee that we too shall be exalted after death to a divine life. Upon him alone and his personality, therefore, rests the confident hope of eternal life for ourselves. It is this, and this alone, that Paul

means in that famous passage (1 Cor. xv. 14), by attaching all our salvation to the resurrection of Christ.

Philosophy cannot indeed deny the possibility of the continuation of human life after death, but neither can it demonstrate it as real. Not man the thinker, but man the believer, as an ethical personality, can receive such a revelation in the profoundest ethical depths of his nature. And only to the one perfectly good man, by virtue of his intimate communion with God, could this revelation be absolutely guaranteed, and not even to him the precise form of it. This belongs to another world, and therefore exceeds all human understanding. But Christ, as the only perfect believer, experiences the imperishable life of God himself as being his all-loving heavenly Father. And so, to those who receive in faith the divine life as it dwells in Christ, there is given through Christ and in Christ a perpetual guarantee of the imperishableness and the bliss of that life. In this lies for men the most glorious hope of eternal continuity. Christ alone is the resurrection and the life. Whoso believeth in him shall live even though he die.

(For a thorough scientific treatment and support of the positions here taken, I must refer to my writings, *Die Weissagungen Jesu Christi von seinem Tode, seiner Auferstehung und Wiederkunft*, Göttingen, Van den Hoek und Ruprecht, 1895, English translation, Edinburgh, 1897, and to my pamphlet, *Das Leben nach dem Tode*, Braunschweig, Wollermann, 1899.)

PAUL SCHWARTZKOPFF.

LAMARCK'S VIEWS ON THE EVOLUTION OF MAN, ON MORALS, AND ON THE RELATION OF SCIENCE TO RELIGION.

I.

LAMARCK'S VIEWS ON THE EVOLUTION OF MAN.

LAMARCK'S opinions on the origin of man are contained in his *Recherches sur l'organisation des corps vivans* (1802) and his *Philosophie zoologique*, published in 1809. We give the following literal translation in full of the views he presented in 1802, and which were probably first advanced in lectures to his classes.

"As to man, his origin, his peculiar nature, I have already stated in this book that I have not kept these subjects in view in making these observations. His extreme superiority over the other living creatures indicates that he is a privileged being who has in common with the animals only that which concerns animal life.

"In truth, we observe a sort of gradation in the intelligence of animals, like what exists in the gradual improvement of their organisation, and we remark that they have ideas, memory; that they think, choose, love, hate, that they are susceptible of jealousy, and that by different inflexions of their voice and by signs they communicate with and understand each other. It is not less evident that man alone is endowed with reason, and that on this account he is clearly distinguished from all the other productions of nature.

"However, were it not for the picture that so many celebrated men have drawn of the weakness and lack of human reason; were it not that, independently of all the freaks into which the passions

of man almost constantly allure him, the *ignorance* which makes him the opinionated slave of custom and the continual dupe of those who wish to deceive him; were it not that his reason has led him into the most revolting errors, since we actually see him so debase himself as to worship animals, even the meanest, of addressing to them his prayers, and of imploring their aid; were it not, I say, for these considerations, should we feel authorised to raise any doubts as to the excellence of this special light which is the attribute of man?

"An observation which has for a long time struck me is that having remarked that the habitual use and exercise of an organ proportionally develops its size and functions, as the lack of employment weakens in the same proportion its power, and even more or less completely atrophies it; I am apprised that of all the organs of man's body which is the most strongly submitted to this influence, that is to say, in which the effects of exercise and of habitual use are the most considerable, is it not the organ of thought, in a word, is it not the brain of man?

"Compare the extraordinary difference existing in the degree of intelligence of a man who rarely exercises his powers of thought, who has always been accustomed to see but a small number of things, only those related to his ordinary wants and to his limited desires; who at no time thinks about these same objects, because he is obliged to occupy himself incessantly with providing for these same wants; finally, who has few ideas, because his attention, continually fixed on the same things, makes him notice nothing, that he makes no comparisons, that he is in the very heart of nature without knowing it, that he looks upon it almost in the same way as do the beasts, and that all that surrounds him is nothing to him: compare, I say, the intelligence of this individual with that of the man who, prepared at the outset by education, has contracted the useful practice of exercising the organ of his thought in devoting himself to the study of the principal branches of knowledge; who observes and compares everything he sees and which affects him; who forgets himself in examining everything he can see, who insensibly accustoms himself to judge of everything for

himself, instead of giving a blind assent to the authority of others; finally, who, stimulated by reverses and especially by injustice, quietly rises by reflexion to the causes which have produced all that we observe both in nature and in human society; then you will appreciate how enormous is the difference between the intelligence of the two men in question.

"If Newton, Bacon, Montesquieu, Voltaire, and so many other men have done honor to the human species by the extent of their intelligence and their genius; how nearly does the mass of brutish, ignorant men approach the animal, becoming a prey to the most absurd prejudices and constantly enslaved by their habits, this mass forming the majority of all nations?

"Search deeply the facts in the comparison I have just made, you will see how in one part the organ which serves for acts of thought is perfected and acquires greater size and power, owing to sustained and varied exercise, especially if this exercise offers no more interruptions than are necessary to prevent the exhaustion of its powers; and on the other hand, you will perceive how the circumstances which prevent an individual from exercising this organ, or from exercising it habitually only while considering a small number of objects which are always of the same nature, impede the development of his intellectual faculties.

"After what I have just stated as to the results in man of a slight exercise of the organ by which he thinks, we shall not be more astonished to see that in the nations which have come to be the most distinguished, because there is among them a small number of men who have been able, by observation and reflexion, to create or advance the higher sciences, the multitude in these same nations have not been for all that exempted from the most absurd errors, and have not the less always been the dupe of imposters and victims of their prejudices.

"Such is in fact the fatality attached to the destiny of man that with the exception of a small number of individuals who live under favorable though special circumstances, the multitude forced to continually busy itself with providing for its needs, remains permanently deprived of the knowledge which it should acquire; in

general exercises to a very slight extent the organ of its intelligence; preserves and propagates a multitude of prejudices which enslave it, and cannot be as happy as those who, guiding it, are themselves guided by reason and justice.

"As to the animals, besides the fact that they in descending order have the brain less developed, they are otherwise proportionally more limited in the means of exercising and of varying their intellectual process. They each exercise them only on a single or on some special points, on which they become more or less expert according to their species. And while their degree of organisation remains the same and the nature of their needs (*besoins*) does not vary, they can never extend the scope of their intelligence, nor apply it to other objects than to those which are related to their ordinary needs.

"Some among them whose structure is a little more perfect than in others, have also greater means of varying and extending their intellectual faculties; but it is always within limits circumscribed by their necessities and habits.

"The power of habit which is found to be still so great in man, especially in one who has but slightly exercised the organ of his thought, is among animals almost insurmountable while their physical state remains the same. Nothing compels them to vary their powers, because they suffice for their wants and these require no change. Hence it is constantly the same objects which exercise their degree of intelligence, and it results that these actions are always the same in each species.

"The sole acts of variation, i. e., the only acts which rise above the limits of habits, and which we see performed in animals whose organisation allows them to, are *acts of imitation.* I only speak of actions which they perform voluntarily or freely (*actions qu'ils font de leur plein gré*).

"Birds, very limited in this respect in the powers which their structure furnishes, can only perform acts of imitation with their vocal organ; this organ by their habitual efforts to render the sounds, and to vary them, becomes in them very perfect. Thus

we know that several birds (the parrot, starling, raven, jay, magpie, canary bird, etc.) imitate the sounds they hear.

"The monkeys, which are, next to man, the animals by their structure having the best means to this end, are most excellent imitators, and there is no limit to the things they can mimic.

"In man, infants which are still of the age when simple ideas are formed on various subjects, and who think but little, forming no complex ideas, are also very good imitators of everything which they see or hear.

"But if each order of things in animals is dependent on the state of organisation occurring in each of them, which is not doubted, there is no occasion for thinking that in these same animals the order which is superior to all the others in organisation is proportionally so also in extent of means, invariability of actions, and consequently in intellectual powers.

"For example, in the mammals which are the most highly organised, the *Quadrumana*, which form a part of them, have besides the advantages over other mammals, a conformation in several of their organs, which considerably increases their powers, which allows of a great variability in their actions, and which extends and even makes predominant their intelligence enabling them to deal with a greater variety of objects with which to exercise their brain. It will doubtless be said: But although man may be a true mammal in his general structure, and although among the mammals the *Quadrumana* are most nearly allied to him, this will not be denied, not only that man is strongly distinguished from the *Quadrumana* by a great superiority of intelligence, but he is also very considerably so in several structural features which characterise him.

"First, the occipital foramen being situated entirely at the base of the cranium of man and not carried up behind, as in the other vertebrates, causes his head to be posed at the extremity of the vertebral column as on a pivot, not bowed down forward, his face not looking towards the ground. This position of the head of man, who can easily turn it to different sides, enables him to see better a larger number of objects at one time, than the much inclined position of the head of other mammals allow them to see.

"Secondly, the remarkable mobility of the fingers of the hand of man, which he employs either all together or several together, or each separately, according to his pleasure, and besides, the sense of touch highly developed at the extremity of these same fingers, enables him to judge of the nature of the bodies which surround him, to recognise them, to make use of them,—means which no other animals possess to such a degree.

"Thirdly, by the state of his organisation, man is able to hold himself up and walk erect. He has for this attitude which is natural to him, large muscles at the lower extremities which are adapted to this end, and it would thus be as difficult to walk habitually on his four extremities, as it would be for the other mammals and even for the *Quadrumana* to walk so habitually erect on the soles of their feet.

"Moreover, man is not truly quadrumanous; for he has not, like the monkeys, an almost equal facility in using the fingers of his feet, and of seizing objects with them. In the feet of man the thumbs are not in opposition to the other fingers to use in grasping, as in monkeys, etc., etc.

"I appreciate all these reasons, and I see that man, although near the *Quadrumana*, is so distinct that he alone represents a separate order, belonging to a single genus and species, offering however many different varieties. This order may be, if it is desired, that of the *Bimana*.

"However, if we consider that all the characteristics which have been cited are only differences in degree of structure, may we not suppose that this special condition of organisation of man *has been gradually acquired at the close of a long period of time, with the aid of circumstances which have proved favorable?*[1] What a subject for reflexion for those who have the courage to enter into it!

"If the *Quadrumana* have not the occipital opening situated directly at the base of the cranium as in man, it is assuredly much less raised posteriorly than in the dog, cat, and all the other mam-

[1] Author's italics.

mals. Thus they all may quite often stand erect, although this attitude for them is very irksome.

"I have not observed the situation of the occipital opening of the jacko or orang-outang (*Simia satyrus* L.); but as I know that this animal almost habitually walks erect, though it has no strength in its legs, I suppose that the occipital foramen is not situated so far from the base of the skull as in the other *Quadrumana*.

"The head of the negro, less flattened in front than that of the European man, necessarily has the occipital foramen central.

"The more should the jacko contract the habit of walking about, the less mobility would he have in his toes, so that the thumbs of the feet which are already much shorter than the other digits, would gradually cease to be placed in opposition to the other toes, and to be useful in grasping. The muscles of its lower extremities would acquire proportionally greater thickness and strength. Then the increased or more frequent exercise of the fingers of its hands would develop nervous masses at their extremities, thus rendering the sense of touch more delicate. This is what our train of reasoning indicates from the consideration of a multitude of facts and observations which support it."[1]

* * *

The subject is closed by a quotation from Grandpré on the habits of the chimpanzee. It is not of sufficient importance to be here reproduced.

Seven years after the publication of these series, Lamarck again returns to the subject in his *Philosophie zoologique*, which we translate.

"*Some Observations Relative to Man.*

"If man were distinguished from the animals by his structure alone, it would be easy to show that the structural characters which

---

[1] "How much this unclean beast resembles man!—*Ennius.*"

"Indeed besides other resemblances the monkey has mammæ, a clitoris, nymphs, uterus, uvula, eye-lobes, nails, as in the human species; it also lacks a suspensory ligament of the neck. Is it not astonishing that man endowed with wisdom differs so little from such a disgusting animal!—*Linnæus.*"

place him, with his varieties, in a family by himself, are all the product of former changes in his actions, and in the habits which he has adopted and which have become special to the individuals of his species.

"Indeed, if any race whatever of *Quadrumana*, especially the most perfect, should lose by the necessity of circumstances or from any other cause, the habit of climbing trees, and of seizing the branches with the feet, as with the hands, to cling to them; and if the individuals of this race, during a series of generations, should be obliged to use their feet only in walking, and should cease to use their hands as feet; there is no doubt, from the observations made in the preceding chapter, that these *Quadrumana* would be finally transformed into *Bimana*, and that the thumbs of their feet would cease to be shorter than the fingers, their feet only being of use for walking.

"Moreover, if the individuals of which I speak were impelled by the necessity of rising up and of looking far and wide, of endeavoring to stand erect, and of adopting this habit constantly from generation to generation; there is no doubt that their feet would gradually and imperceptibly assume a conformation adapted for an erect posture, that their legs would develop calves, and that these creatures would not afterwards walk as they do now, painfully on both hands and feet.

"Also, if these same individuals should cease using their jaws for biting in self-defence, tearing or seizing, or using them like nippers in cutting leaves for food, and should they only be used in chewing food; there is no doubt that their facial angle would become higher, that their muzzle would become shorter and shorter, and that in the end this being entirely effaced, their incisor teeth would become vertical.

"Now supposing that a race of *Quadrumana*, as for example the most perfect, had acquired, by habits constant in every individual, the structure I have just described, and the power of standing erect and of walking upright, and that as the result of this it had come to dominate the other races of animals; we should then conceive:

"1. That this race farther advanced in its faculties, having arrived at the stage when it lords it over the others, will be spread over the surface of the globe in every suitable place;

"2. That it will hunt the other higher races of animals and will struggle with them for preëminence (*lui disputer les biens de la terre*) and that it will force them to take refuge in regions which it does not occupy;

"3. That being injured by the great multiplication of closely allied races and having banished them into forests or other desert places, it will arrest the progress of improvement in their faculties, while its own self, the ruler of the region over which it spreads, will increase in population without hindrance on the part of others, and, living in numerous tribes, will in succession create new needs which should stimulate industry and gradually render still more perfect its means and powers;

"4. That finally, this preëminent race having acquired an absolute supremacy over all the others, there arose between it and the highest animals a difference and indeed a considerable interval.

"Thus, the most perfect race of *Quadrumana* will have been enabled to become dominant, to change its habits as the result of the absolute dominion which it will have assumed over the others, and with its new needs; by progressively acquiring modifications in its structure and its new and numerous powers, to keep within due limits the most highly developed of the other races in the state to which they had advanced; and to create between it and these last very remarkable distinctions.

"The Angola orang (*Simia troglodytes* Lin.) is the highest animal; it is much more perfect than the orang of the Indies (*Simia satyrus* Lin.), which is called the orang-outang, and, nevertheless, as regards their structure they are both very inferior to man in bodily faculties and intelligence. These animals often stand erect; but this attitude is not habitual, their organisation not having been sufficiently modified, so that standing still (*station*) is painful for them.

"It is known, from the accounts of travellers, especially in regard to the orang of the Indies, that when immediate danger obliges

it to fly, it immediately falls on all fours. This betrays, they tell us, the true origin of this animal, since it is obliged to abandon the alien unaccustomed partially erect attitude which is thrust upon it.

"Without doubt this attitude is foreign to it, since in its change of locality, it makes less use of it, which shows that its organisation is less adapted to it; but though it has become easier for man to stand up straight, is the erect posture wholly natural to him?

"Although man, who, by his habits, maintained in the individuals of his species during a great series of generations, can stand erect only while changing from one place to another, this attitude is not less in his case a condition of fatigue, during which he is able to maintain himself in an upright position only during a limited time and with the aid of the contraction of several of his muscles.

"If the vertebral column of the human body should form the axis of this body, and sustains the head in equilibrium, as also the other parts, the man standing would be in a state of rest. But who does not know that this is not so; that the head is not articulated at its center of gravity; that the chest and stomach, as also the viscera which these cavities contain, weigh heavily almost entirely on the anterior part of the vertebral column; that the latter rests on an oblique base, etc. Also, as M. Richerand observes, there is needed in standing a force active and watching without ceasing to prevent the body from falling over, the weight and disposition of parts tending to make the body fall forward.

"After having developed the considerations regarding the standing posture of man, the same savant then expresses himself: 'The relative weight of the head, of the thoracic and abdominal viscera, tends therefore to throw it in front of the line, according to which all the parts of the body bear down on the ground sustaining it; a line which should be exactly perpendicular to this ground in order that the standing position may be perfect; the following fact supports this assertion: I have observed that infants with a large head, the stomach protruding and the viscera loaded with fat, accustom themselves with difficulty to stand up straight, and it is not until the end of their second year that they dare to surrender them-

selves to their proper forces; they stand subject to frequent falls and have a natural tendency to revert to the quadrupedal state.' (*Physiologie*, Vol. II., p. 268.)

"This disposition of the parts which cause the erect position of man, being a state of activity, and consequently fatiguing, instead of being a state of rest, would then betray in him an origin analogous to that of the mammals, if his organisation alone should be taken into consideration.

"Now in order to follow, in all its particulars, the hypothesis presented in the beginning of these observations, it is fitting to add the following considerations:

"The individuals of the dominant race previously mentioned, having taken possession of all the inhabitable places which were suitable for them, and having to a very considerable extent multiplied their necessities in proportion as the societies which they formed became more numerous, were able equally to increase their ideas, and consequently to feel the need of communicating them to their fellows. We conceive that there would arise the necessity of increasing and of varying in the same proportion the *signs* adopted for the communication of these ideas. It is then evident that the members of this race would have to make continual efforts, and to employ every possible means in these efforts, to create, multiply, and render sufficiently varied the *signs* which their ideas and their numerous wants would render necessary.

"It is not so with any other animals; because, although the most perfect among them, such as the *Quadrumana*, live mostly in troups, since the eminent supremacy of the race mentioned they have remained stationary as regards the improvement of their faculties, having been driven out from everywhere and banished to wild, desert, usually restricted regions, whither, miserable and restless, they are incessantly constrained to fly and hide themselves. In this situation these animals no longer contract new needs, they acquire no new ideas; they have but a small number of them, and it is always the same ones which occupy their attention, and among these ideas there are very few which they have need of communicating to the other individuals of their species. There are, then,

only very few different *signs* which they employ among their fellows; also, some movements of the body or of certain of its parts, certain hisses and cries raised by the simple inflexions of the voice, suffice them.

"On the contrary, the individuals of the dominant race already mentioned, having had need of multiplying the *signs* for the rapid communication of their ideas, now become more and more numerous, and, no longer contented either with pantomimic signs or possible inflexions of their voice to represent this multitude of signs now become necessary, would succeed by different efforts in forming *articulated sounds*: at first they would use only a small number, conjointly with the inflexions of their voice; as the result they would multiply, vary, and perfect them, according to their increasing necessities, and according as they would be more accustomed to produce them. Indeed, the habitual exercise of their throat, their tongue, and their lips to make articulate sounds, will have eminently developed in them this faculty.

"Hence for this particular race the origin of the wonderful power of *speech*; and as the distance between the regions where the individuals composing it would be spread, would favor the corruption of the signs fitted to express each idea, from this arose the origin of languages, which must be everywhere diversified.

"Then in this respect necessities alone would have accomplished everything; they would give origin to efforts; and the organs fitted for the articulation of sounds would be developed by their habitual use.

"Such would be the reflexions which might be made if man, considered here as the preëminent race in question, were distinguished from the animals only by his physical characters, and if his origin were not different from theirs."

* * *

This is certainly, for the time it was written, an original, comprehensive, and bold attempt at explaining the probable origin of man from some arboreal creature allied to the apes. It is a more detailed and comprehensive hypothesis than that offered by Darwin in his *Descent of Man*, which Lamarck has anticipated. Darwin

does not refer to this theory of Lamarck and seems to have entirely overlooked it, as have others since his time. The change from an arboreal life and climbing posture to an erect one, and the transformation of the hinder pair of hands into the feet of the erect human animal, remind us of the very probable hypothesis of Mr. Herbert Spencer, as to the modification of the quadrumanon's posterior pair of hands to form the plantigrade feet of man.

II.

LAMARCK'S THOUGHTS ON MORALS, AND ON THE RELATION BETWEEN SCIENCE AND RELIGION.

One who has read the writings of the great French naturalist, who may be regarded as the founder of evolution, will readily realise that Lamarck's mind was essentially philosophic, comprehensive, and synthetic. He looked upon every problem in a large way. His breadth of view, his moral and intellectual strength, his equably developed nature, generous in its sympathies and aspiring in its tendencies, naturally led him to take a position as to the relations between science and religion, which, it goes without saying, is characteristic rather of the end than of the beginning of the nineteenth century.

When a very young man, he was for a time a friend of the erratic and gifted Rousseau, and was afterwards not unknown to Condorcet, the secretary of the French Academy of Sciences, so liberal in his views and so bitter an enemy of the Church; and though constantly in contact with the radical views and burning questions of that day, Lamarck throughout his life preserved his philosophic calm, and maintained his lofty tone and firm temper. We find no trace in his writings of sentiments other than the most elevated and inspiring, and we know that in character he was pure and sweet, self-sacrificing, self-denying, and free from self-assertion.

The quotations from his *Philosophie zoologique*, published in 1809, given below will show what were the results of his meditations on the relations between science and religion. Had his way of looking at this subject prevailed, how much misunderstanding

and ill-feeling between theologians and savants would have been avoided! Had his spirit and breadth of view animated both parties, there would not have been the constant and needless opposition on the part of the Church to the grand results of scientific discovery and philosophy, or too hasty dogmatism and scepticism on the part of the scientists.

In Lamarck, at the opening of the past century, we behold the spectacle of a man devoting over fifty years of his life to scientific research in biology, and insisting on the doctrine of spontaneous generation, of the immense length of geological time, so opposed to the views held by the Church, the evolution of plants and animals from a single germ, and even the origin of man from the apes, yet as earnestly claiming that nature has its Author who in the beginning established the order of things, giving the initial impulse to the laws of the universe.

As Duval says, after quoting the passage given below: "Deux faits son à noter dans ce passage: d'une part, les termes dignes et conciliants dans lesquels Lamarck établit la part de la science et de la religion; cela vaut, mieux, même en tenant compte des différences d'epoques, que les abjurations de Buffon."[1]

The passage quoted by M. Duval is the following one:

"Surely nothing exists except by the will of the sublime Author of all things. But can we not assign him laws in the execution of his will, and determine the method which he has followed in this respect? Has not his infinite power enabled him to create an *order of things* which has successively given existence to all that we see, as well as to that which exists and that of which we have no knowledge? As regards the decrees of this infinite wisdom, I have confined myself to the limits of a simple observer of nature."[2]

In other places we find the following expressions:

"There is then, for the animals as for the plants, an order which belongs to nature, and which results, as also the objects

---

[1] Mathias Duval. "Le transformiste français Lamarck." *Bulletin de la Société d'Anthropologie de Paris*, XII., 1889, p. 345.

[2] *Philosophie zoologique*, i. p. 56.

which this order makes exist, from the power which it has received from the SUPREME AUTHOR of all things. She is herself only the general and unchangeable order that this sublime Author has created throughout, and only the totality of the general and special laws to which this order is subject. By these means, whose use it continues without change, it has given and will perpetually give existence to its productions; it varies and renews them unceasingly, and thus everywhere preserves the whole order which is the result of it."[1]

"To regard nature as eternal, and consequently as having existed from all time, is to me an abstract idea, baseless, limitless, improbable, and not satisfactory to my reason. Being unable to know anything positive in this respect, and having no means of reasoning on this subject, I much prefer to think that *all nature* is only a result: hence I suppose, and I am glad to admit it, a first cause, in a word, a supreme power which has given existence to nature, and which has made it in all respects what it is."[2]

"Nature, that immense totality of different beings and bodies, in every part of which exists an eternal circle of movements and changes regulated by law; totality alone unchangeable, so long as it pleases its SUBLIME AUTHOR to cause its existence, should be regarded as a whole constituted by its parts, for a purpose which its Author alone knows, and not exclusively for any one of them.

"Each part is necessarily obliged to change, and to cease to be one in order to constitute another, with interests opposed to those of all; and if it has the power of reasoning it finds this whole imperfect. In reality, however, this whole is perfect and completely fulfils the end for which it was designed."[3]

* * *

Lamarck's work on general philosophy was written near the end of his life, in 1820. He begins his *Discours préliminaire* by referring to the sudden loss of his eyesight, his work on the invertebrate animals being thereby interrupted. The book was, he says,

---

[1] *Loc. cit.*, i. p. 113. [2] *Loc cit.*, i. p. 361. [3] *Loc. cit.*, ii. p. 465.

"rapidly" dictated to his daughter, and the ease with which he dictated was due, he says, to his long-continued habit of meditating on the facts he had observed.

In the *Principes primordiaux* he considers man as the only being who has the power of observing nature, and the only one who has perceived the necessity of recognising a superior and only cause, creator of the order of the wonders of the world of life. By this he is led to raise his thoughts to the *supreme author* of all that exists.

"In the creation of his works, and especially those we can observe, this omnipotent Being has undoubtedly been the ruling power in pursuing the method which has pleased him, namely, his will has been:

"Either to create instantaneously and separately every particular living being observed by us, to personally care for and watch over them in all their changes, their movements, or their actions, to unremittingly care for each one separately, and by the exercise of his supreme will to regulate all their life;

"Or to reduce his creations to a small number, and among these, to institute an order of things general and continuous, pervaded by ceaseless activity (*mouvement*), especially subject to laws by means of which all the organisms of whatever nature, all the changes they undergo, all the peculiarities they present, and all the phenomena that many of them exhibit, may be produced.

"In regard to these two modes of execution, if observation taught us nothing we could not form any opinion which would be well grounded. But it is not so; we distinctly see that there exists an order of things truly created (*véritablement créé*), as unchangeable as its author allows, acting on matter alone, and which possesses the power of producing all visible beings, of executing all the changes, all the modifications, even the extinctions, so also the renewals or re-creations that we observe among them. It is to this order of things that we have given the name of *nature*. The supreme author of all that exists is, then, the immediate creator of matter as also of nature, but he is only indirectly the creator of what nature can produce.

"The end that God has proposed to himself in creating matter, which forms the basis of all bodies, and nature, which divides (*divise*) this matter, forms the bodies, makes them vary, modifies them, changes them, and renews them in different ways, can be easily known to us; for the Supreme Being cannot meet with any obstacle to his will in the execution of his works; the general results of these works are necessarily the object he had in view. Thus this end could be no other than the existence of nature, of which matter alone forms the sphere, and should not be that causing the creation of any special being.

"Do we find in the two objects created, i. e., *matter* and *nature*, the source of the good and evil which have almost always been thought to exist in the events of this world? To this question I shall answer that good and evil are only relative to particular objects, that they never affect by their temporary existence, the general result expected (*prévu*), and that for the end which the Creator designed, there is in reality neither good nor evil, because everything in nature perfectly fulfils its object.

"Has God limited his creations to the existence of only matter and nature? This question is vain, and should remain without an answer on our part; because, being reduced to knowing anything only through observation, and to bodies alone, also to what concerns them, these being for us the only observable objects, it would be rash to affirm affirmatively or negatively on this subject.

"What is a spiritual being? It is what, with the aid of the imagination, one would naturally suppose (*l'on vaudra supposer*). Indeed, it is only by means of opposing that which is material that we can form the idea of spirit; but as this hypothetical being is not in the category of objects which it is possible for us to observe, we do not know how to take cognisance of it. The idea that we have of it is absolutely without base.

"We only know physical objects and only objects relative to these beings (*êtres*): such is the condition of our nature. If our thoughts, our reasonings, our principles, have been considered as metaphysical objects, these objects, then, are not beings (*êtres*).

They are only relations or consequences of relations (*rapports*), or only results of observed laws.

"We know that relations are distinguished as general and special. Among these last are regarded those of nature, form, dimension, solidity, size, quantity, resemblance, and difference; and if we add to these objects the beings observed and the consideration of known laws, as also that of conventional objects, we shall have all the materials on which our thoughts are based.

"Thus being able to observe only the phenomena of nature, as well as the laws which regulate these phenomena, also the products of these last, in a word, only bodies (*corps*) and what concerns them, all that which immediately proceeds from supreme power is incomprehensible to us, as it itself [i. e., supreme power] is to our minds. To create, or to make anything out of nothing, this is an idea we cannot conceive of, for the reason that in all that we can know, we do not find any model which represents it. GOD alone, then, can create, while nature can only produce. We must suppose that, in his creations, the Divinity is not restricted to the use of any time, while on the other hand nature can effect nothing without the aid of long periods of time."

* * *

Without translating more of this remarkable book, which is very rare, much less known than his *Philosophie zoologique*, the spirit of the remainder may be imagined from the foregoing extracts.

The author refers to the numerous evils resulting from ignorance, false knowledge, lack of judgment, abuse of power, demonstrating the necessity of our confining ourselves within the circle of the objects presented by nature, and never to go beyond them if we do not wish to fall into error, because the profound study of nature and of the organisation of man alone, and the exact observation of facts alone, will reveal to us "the truths most important for us to know," in order to avoid the vexations, the perfidies, the injustices, and the oppressions of all sorts, and "incalculable disorders" which arise in the social body. In this way only shall we discover and acquire the means of obtaining the enjoyment of the

advantages which we have a right to expect from our state of civilisation. The author endeavors to state what science can and should render to society. He dwells on the sources from which man has drawn the knowledge which he possesses, and from which he can obtain many others,—sources the totality of which constitutes for him the field of realities.

Lamarck also in this work has built up a system for moral philosophy.

Self-love, he says, perfectly regulated gives rise:

1. To moral force which characterises the laborious man, so that the length and difficulties of a useful work do not repel him;

2. To the courage of him who, knowing the danger, exposes himself when he sees that this would be useful.

3. To love of wisdom.

Wisdom, according to Lamarck, consists in the observance of a certain number of rules or virtues. These we cite in a slightly abridged form.

Love of truth in all things; the need of improving one's mind; moderation in desires; decorum in all actions; a wise reserve in unessential wants; indulgence, toleration, humanity, good will towards all men; love of the public good and of all that is necessary to our fellows; contempt for weakness; a kind of severity towards oneself which preserves us from that multitude of artificial wants enslaving those who give up to them; resignation, and if possible, moral impassibility in suffering reverses, injustices, oppresssion, and losses; respect for order, for public institutions, civil authorities, laws, morality, and religion.

The practice of these maxims and virtues, says Lamarck, characterises true philosophy.

And it may be added that no one practised these virtues more than Lamarck. Like Cuvier's, his life was blameless, and though he lived a most retired life, and was not called upon to fill any public station other than his chair of zoölogy at the Jardin des Plantes, we may feel sure that he had the qualities of courage, independence, and patriotism which would have rendered such a career most useful to his country.

As Bourguin eloquently asserts: "Lamarck was the brave man who never deserted a dangerous post, the laborious man who never hesitated to meet any difficulty, the investigating spirit, firm in his convictions, tolerant of the opinions of others, the simple man, moderate in all things, the enemy of weakness, devoted to the public good, imperturbable under the attaints of fortune, of suffering, and of unjust and passionate attacks."

A. S. PACKARD.

BROWN UNIVERSITY, PROVIDENCE, R. I.

MATHEMATICAL PRINCIPLES OF ESTHETIC FORMS.

THE first systematic study of the philosophy of form is due to Aristotle who in his criticism of the Platonic theories established four principles according to which the universe may be classified: matter, form, moving cause, and purpose. Of these matter and form are fundamental and include the others. To explain the universe by matter and form, Aristotle assumed that the moving cause realises the transformation of the not complete reality or potentiality into reality, or of matter into form. He further made the assumption that in every movement of the incomplete into the complete, the complete is the primitive conception and motive of this movement, so that, consequently, form has to be considered as the moving cause of matter.

Since the beautiful reasoning of Aristotle and the clever speculations of centuries of philosophy we have learned to consider the universe from an essentially different point of view. Instead of assuming four universal principles, we have one grand principle: the conservation of energy and matter, which, so far as human experience goes, is an established fact. It is based upon the conceptions of matter, force, and movement, or rather expresses a relation between them. Matter occupies space, and form appears as a limiting process in the displacement or motion of matter. Form is therefore essentially a mathematical conception.

The principle of the conservation of energy and matter is the supreme law of the physical world. Up to the present time science has not succeeded in establishing or discovering laws of

such generality for organic and psychic processes. Evolution may be considered as an exception, but it must be remembered that it explains only the historic development of organic forms. There is nothing to explain the true mechanism of organic and psychic life.

Form itself is independent of such explanation and may be defined by abstract geometrical laws. It is different, however, when the attempt is made to formulate the principles of form in regard to esthetic purposes. The method of Aristotle leads to one-sided results. The same is true of all other attempts that are based upon metaphysical assumptions. As form is the result of laws connecting certain elements of space, it must be possible, and it seems most natural, to establish those mathematical principles which dominate esthetic forms. To simplify the method, we shall use elementary forms and their association to illustrate the principles involved, and exclude the infinite products of imagination and originality.

The principal factor in our judgment of esthetic forms lies in the observation of certain symmetrical and mechanical arrangements in organic life. For a free organic being to be subject to no unnatural strains or positions, it is necessary that his center of gravity be in a vertical line through the center of support. Nature has satisfied this mechanical condition in the most simple manner by arranging the masses of most organic bodies symmetrically with regard to points, straight lines, or planes. This principle, although applicable to the animal kingdom and to a large portion of plant-life, is not entirely general; but it is sufficient to demonstrate that symmetry is one of the fundamental principles governing esthetic forms. Symmetry of a simple or higher order is in most cases a necessary property of esthetic form. The form of a man with an amputated arm or only one ear is not esthetic because symmetry is destroyed. For the same reason, a tree having all its branches on one side, or with a greatly inclined trunk, does not agree with our conception of ideal tree-form. The feeling for symmetric forms, largely dictated by nature, is so strongly developed in the human mind that it has become conventional in the creations of elementary artistic forms. It has dominated architecture through centuries,

up to the present time. Great monuments of architecture, universally considered as beautiful, invariably comply with the laws of symmetry.

Physiologically the perception of symmetrical forms is conditioned by the anatomical structure of the eyes, as has been clearly shown by Professor Mach.[1] The whole apparatus of the eye is symmetrical with regard to the median plane of the head and is able to perform perfectly symmetrical motions. Visual movements of this kind produce therefore equal or approximately equal space-sensations. Thus, the equality of figures symmetrical to a vertical axis is readily recognised. The principles of symmetry, although chiefly conditioned by the physiology of vision, appear also from certain movements of the hands and feet, which, if not controlled by reflexions of the mind, are again symmetrical with respect to the median plane of the body in a normal position.

Originally, figures are distinguished by physiological properties and not by geometrical considerations. Geometry is a product of the human mind, based upon primitive visual and muscular sensations. This important fact makes it possible to establish purely geometrical laws which partly govern esthetic forms. Their consistency with the fundamental experiences of certain pleasing sensations leads us to a geometrical theory explaining some of the features of esthetic forms.[2]

What is now the abstract law of symmetry? To answer this question we remark that there are two methods in geometry by which forms may be investigated.[3] The first is embodied in the

[1] *Contributions to the Analysis of the Sensations*, pp. 41–81. *Popular Scientific Lectures: On Symmetry*, pp. 89–106. Both published by the Open Court Publishing Co., Chicago.

[2] It is clear that by such a theory not all conditions which are necessary to define or make an esthetic form can be obtained. There seems to be no doubt, however, that symmetry and repetition and some of their transformations, in the domain of fine arts, admit of exact treatment as furnished by modern geometry. The reader who is further interested in the theory of space-sensations is referred to Professor Mach's very interesting treatise mentioned above and to Professor Wundt's *Physiologische Psychologie*, p. 179. See also Soret's book, *Des conditions physiques de la perception du beau*, Geneva, 1892.

[3] See M. Poincaré's article "On the Foundations of Geometry" in *The Monist*, Vol. IX., No. 1. Also, Sophus Lie, *Theorie der Transformationsgruppen* and

principle of the group, which in a simple case states that two or more linear displacements in space are always equivalent to a single displacement of the same kind. Motion is the fundamental idea of this geometry. The second is based upon visual space and assumes the rays of light or the straight lines as elements. It is apparent that the second method is better adapted to the discussion of those forms which depend upon axial and central symmetry. In this geometry metric properties, which in the study of geometrical forms are of secondary importance, appear as certain functions of the cross-ratio of four linear elements. Taking for instance four points of a line in the succession $A\,B\,C\,D$, one of the cross-ratios of these points may be defined by the double fraction

$$\frac{AC}{BC} : \frac{AD}{BD},$$

or by the equivalent symbol $(A\,B\,C\,D)$. Assuming one of the points, say D, at infinity, and the segment BC as the unit of length, the value of the cross-ratio $(A\,B\,C\,D)$ will be equal to the length of the segment AC. The most simple case of axial symmetry, that of two points A and B with regard to a center C (also central symmetry), results as a special case of the cross-ratio $(A\,B\,C\,D) = -1$. The four points are said to be in involution and result in the proposed symmetry if D is removed to an infinite distance. The word involution in geometry means that there exists a certain correspondence of elements in a geometrical configuration, which remains unchanged if any of its elements are replaced by their corresponding elements. Involution is consequently one of the principal characteristics of symmetry. Another important property of symmetry consists in the inalterability of its mathematical expression by the projective transformations of space. This also covers the fundamental law of perspective and must be considered as the reason why, in the space of our vision, symmetry is not lost. This is illustrated by Figs. 1[1] and 2, representing cases of axial and

---

Theorie der Berührungstransformationen. Wilhelm Fiedler, *Geometrie der Lage.* Theodore Reye, *Geometrie der Lage.*

[1] Fig. 1 has been taken from *A Short History of Art*, by Julien B. De Frost. It contains the outlines of the *Arch of Titus* and has been redrawn.

central symmetry, respectively, and their perspective transformation.

A second indispensable factor in the study of esthetic forms is

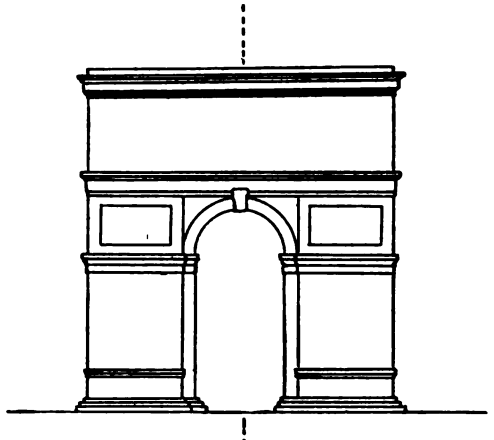


Fig. 1*a*.

the principle of repetition which finds its mathematical expression in the geometry of groups. Hence, displacement or motion is the

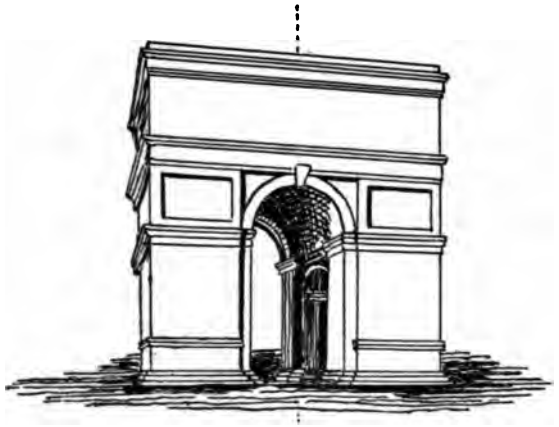


Fig. 1*b*.

foundation of those forms which depend upon repetition. To illustrate these principles we shall first consider the displacements of translation and rotation. The triangles *A*, *B*, *C*, ..., *K*, Fig. 3,

all occupy positions assigned to them by the translations of a group. Indeed, any two of these triangles may be interchanged by a certain translation and its inversion. Any succession of translations, for instance, *A D G C E*, corresponds to a single translation,

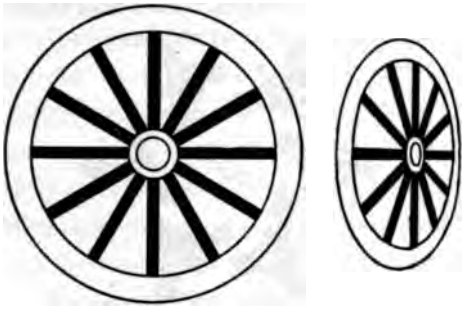


Fig. 2.

A E, of this group. The same law holds for rotatory displacement of an element about a fixed center, Fig. 4.

In decorative arts, especially in ornamentation, combinations

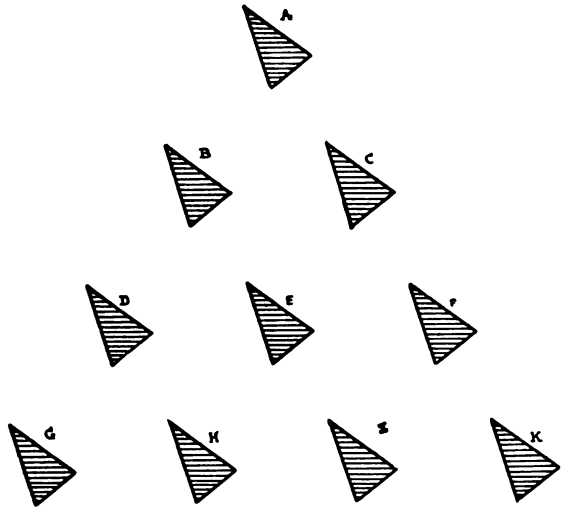


Fig. 3.

of translations, rotations, and symmetries are used very frequently. The relation between such combined regular arrangements is shown in Fig. 5, where three concurrent axes of symmetry, I, II, III, are assumed which divide the plane into six equal angles of 60°. Re-

flecting (axial symmetry) the elementary form A_1 on all three axes, the new equal forms A_1', A_2, A_2' are produced. Reflecting each of these on the same axes, the complete Fig. 5 is obtained. Considering the whole figure it is noticed that it has three other axes, *a*, *b*, *c*, of axial symmetry or of reflexion. Two reflexions of A_1 on I and

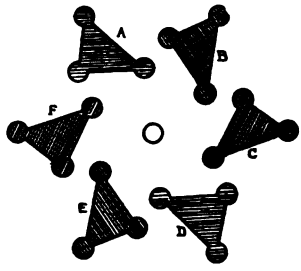


Fig. 4.

II, in succession, produce A_2 and are equivalent to a rotation of A_1 about the center O and through an angle of 120°. In the series of consecutive reflexions $(A_1 A_1')$, $(A_1' A_2)$, $(A_2 B_2')$, $(B_2' B_2)$, $(B_2 B_2')$, the positions of A_2' and B_2' are in central symmetry. From this

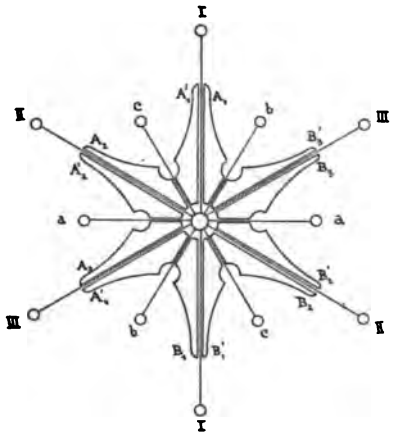


Fig. 5.

it is seen that Fig. 5 unites in a limited sense the principles of visual and motional geometry and may be considered as a characteristic case of a large class of ornamental forms in which any number of regularly distributed axes may be assumed as a base.

As in the plane also regular repetitions of points and surfaces

in space are dominated by the properties of groups and symmetry. The regular polyhedrons form a typical class of such arrangements in space and we shall obtain a sufficient idea of the principles of their formation by studying the icosahedron, the highest and probably the most important representative of these solids.[1] The icosahedron, Fig. 6, is bounded by twenty regular triangles, 30 edges, and 12 vertices. To each face, edge, and vertex corresponds an opposite face, edge, and vertex, so that there are 10 facial axes (connecting the centers of opposite faces), 10 mediam axes (connecting the middle points of opposite edges), and 6 principal axes (connecting opposite vertices). For each facial axis there are three distinct rotations by which the icosahedron is made to occupy its original space. There are five rotations with the same property

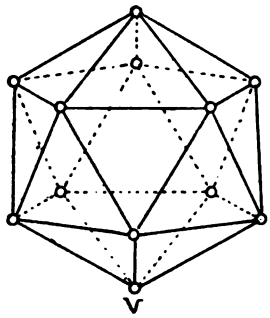


Fig. 6.

for each principal axis, and two for each mediam axis. Each plane passing through two opposite edges is one of symmetry, and there are fifteen of these. From a stereographic projection of the icosahedron with regard to the circumscribed sphere, and one of its vertices as a center of projection, as represented by Fig. 7, the group-properties of this exceedingly interesting solid may easily be detected. The fifteen planes of symmetry cut the sphere in fifteen great circles whose projections all appear in Fig. 7. Five of these, passing through *V*, project as straight lines, *a*, *b*, *c*, *d*, *e* and are also the orthographic projections of the five planes of symmetry

[1] For a complete theory of the icosahedron see F. Klein's *Vorlesungen über das Ikosaeder*, Leipzig, 1885.

through the center V. A reflexion on each of these axes, and each rotation about V through an angle of 72°, transforms the whole figure into itself. In a similar manner we can illustrate the group-properties with regard to the remaining axes by assuming proper centers of projection on the sphere.

While all these relations, at first thought, seem to result from artifices of the human mind, it is a peculiar fact that they comprise

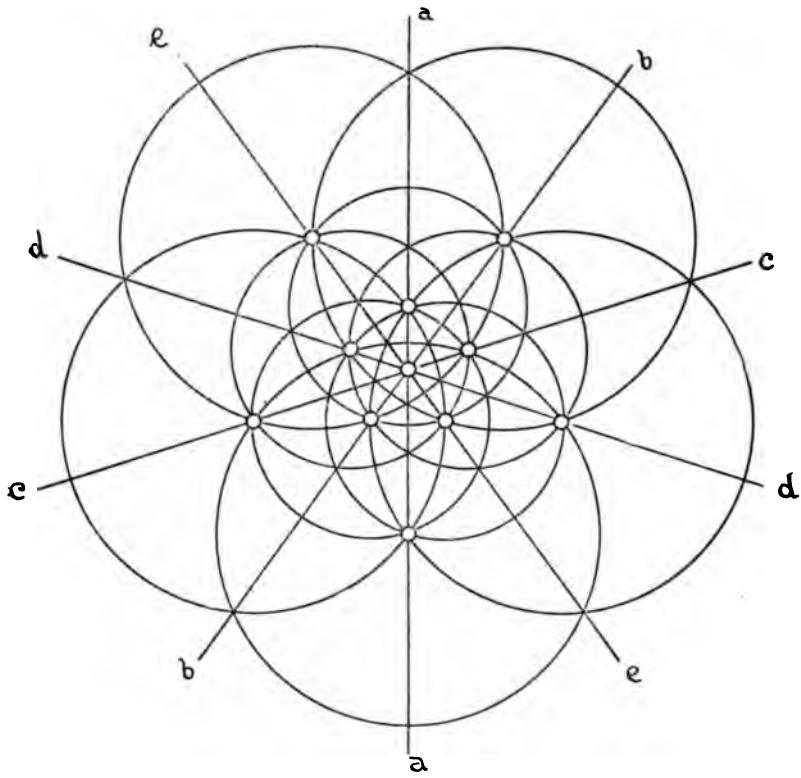


Fig. 7.

the geometrical laws of crystallography. Without the principle of the group it never would have been possible to fully explain and understand the true laws of crystal forms.

We have seen that a perspective transformation does not destroy the impression of axial and central symmetry. The same is true of the impression obtained by the repetition of an elementary

form in a configuration. Figs. 2 and 8 are examples of translation and rotation and their perspective transformations.

Inversion[1] is another geometrical transformation preserving the character of repetition. Although inversion is an exhaustless

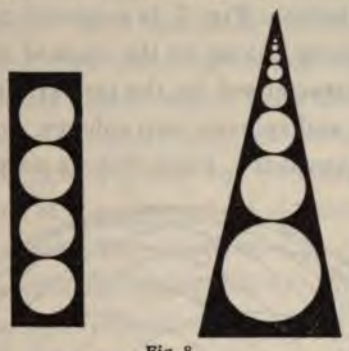


Fig. 8.

source of ornamental designs, it is not probable that it has ever been applied intentionally in the creation of esthetic forms. The

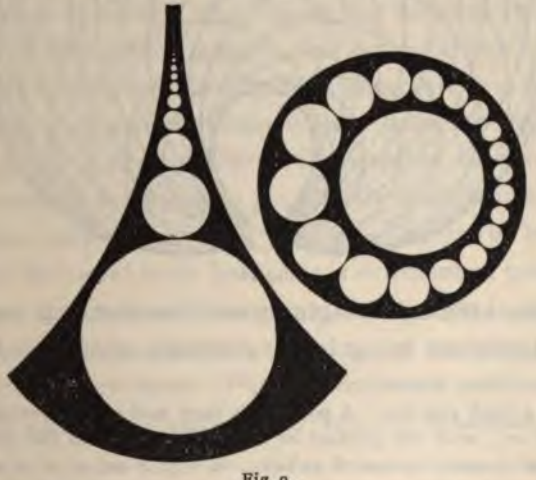


Fig. 9.

effect of such a transformation upon circular series, like those of Fig. 8, is shown in Fig. 9.

[1] The establishment of the geometrical principle of inversion is of comparatively recent date, and is of the utmost importance in many fields of modern mathematical investigation. It is of like importance in its applications to mathematical physics, as has been shown by Lord Kelvin in his *Treatise on Natural Philosophy*, and a number of other physicists. To define inversion in space, a unit-sphere

One of the characteristic properties of inversion is the transformation of circles into other circles and very small figures into similar small figures. Orthogonal lines are transformed into other orthogonal lines. Stereographic projection, which has been applied to the icosahedron, Fig. 7, is a special case of inversion in space. All inversions belong to the class of circular transformations which are characterised by the property that they transform circles into circles and spheres into spheres, or that they leave the absolute of space invariant. From this we conclude that the abso-

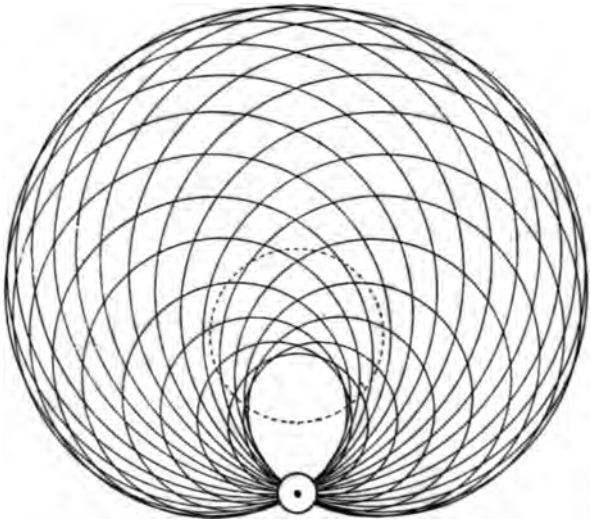


Fig. 10.

lute in space, although imaginary and transcending our imagination, is an important factor in the evolution of esthetic forms.[1]

---

is assumed in a fixed position. A point A' is then said to be inverted to the point A, if $OA \cdot OA' = 1$, or if the product of their distances from the center O of the sphere is equal to unity (square of radius). If x, y, z and x', y', z' are the Cartesian co-ordinates of A and A', respectively, the transformation of inversion is analytically expressed by the formulae:

$$x' = \frac{x}{x^2+y^2+z^2}, \quad y' = \frac{y}{x^2+y^2+z^2}, \quad z' = \frac{z}{x^2+y^2+z^2}.$$

[1] For further information concerning inversion and similar subjects the following authorities may be consulted: Picard, *Traité d'analyse*, Vol. I. and II., Gauthier-Villars, Paris; Darboux, *Théorie générale des surfaces*, Vol. I., Gauthier-Villars, Paris; Morley and Harkness, *The Theory of Functions*, Macmillan & Co., New York.

This fact is also demonstrated by the remarkable phenomenon that those lines and surfaces which pass through the absolute are distinguished by their beauty of form and their close connexion with circular systems. In Fig. 10 a curve has been drawn which possesses this property. It is formed as the envelope of all circles which pass through a fixed point and whose centers lie on a fixed circle and is a bicircular quartic with a finite double-point. While the forms of this class are of particular interest with regard to their pleasing effect upon the eye, it is not necessary that all esthetic forms should possess this property.[1] Any form defined by a uniform law in harmony with the foundations of geometry may serve as an element in an esthetic arrangement. There are approximations to this rule which may deceive the eye and which are justified. But rough approximations are frequently used to cover ignorance of true methods. Some painters and decorators replace ellipses, where ellipses are in proper place, by clumsy ovals; curves of interpenetrations of conical and cylindrical surfaces by impossible products of a morbid imagination; and correct laws of perspective by shallow rules obtained directly from observation in nature.

Recently, geometrical methods have been developed,[2] which make it possible to explain the true connexion between a class of certain ornaments belonging to the domain of decorative arts. The mathematical subject abstracted from these figures is, however, too complicated to be set forth here. It is sufficient to point out that the principal object of these investigations consists in the construction of crinkly continuous curves having no tangents and filling a given region of a surface. Fig. 11 illustrates analysed parts of such curves and plainly shows their relation to ornamental forms.

---

[1] Professor Mach in his *Analysis of the Sensations*, pp. 47–49, points out "that a simple intellectual relationship of two *or more* [the italics are the author's] objects does not necessarily condition a similarity of sensation." Thus, conics obtained as plane sections of the same cone may appear as entirely different figures. Similarly, curves of the third order may be very different in form. The pleasing effect of geometrically related forms, however, has nothing to do with the difference in their appearance.

[2] E. H. Moore, *On Certain Crinkly Curves*, *Transactions of the American Mathematical Society*, Vol. I., No. 1.

We have stated that the principles of symmetry and repetition have been derived from mechanical observations in nature and they can be formulated mathematically. While the forms which we have used to establish these facts were mostly geometrical and artificial, it is important to notice that purely geometrical forms are not limited to inorganic nature.

Two examples from biology will be sufficient to show that there are plants and animals with mathematical forms. The leaves of most plants are alternately distributed along the stem in an order which is uniform for each species.[1] Any two consecutive leaves

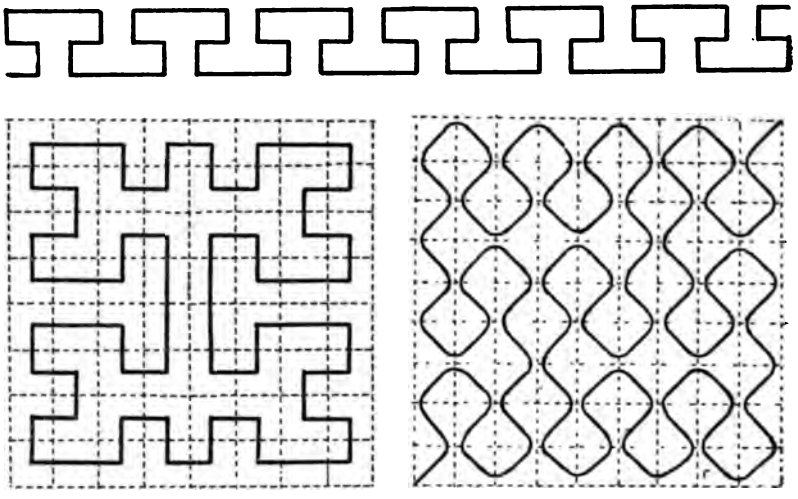


Fig. 11.

will always be separated from each other by an equal portion, $\frac{n}{m}$, of the circumference of the stem (in the same species). The fractions $\frac{n}{m}$ which actually occur in the phyllotaxy of alternate leaves are the convergents of the continued fraction

$$\cfrac{1}{1+\cfrac{1}{1+\cfrac{1}{1+\ldots}}},$$

i. e., 1, $\frac{1}{2}$, $\frac{2}{3}$, $\frac{3}{5}$, $\frac{5}{8}$, etc., and belong to a special case of Lamé's series.[2]

---

[1] Gray's *Lessons and Manual of Botany*, pp. 69–71.

[2] G. Mahler, *Ebene Geometrie*, Stuttgart, 1895, p. 102.

In zoölogy we mention the beautiful spirals of snail houses, amonites, the regular radiolares, etc., but there is hardly a living being which attracts the geometrical eye to a greater degree than the plan of a peacock's train in which each feather is present in perfect condition, Fig. 12. The curves winding to the left and right are Archimedean spirals, and the whole design is symmetrical.

From these few examples it is clearly seen that what we call foundations of geometry is implicitly exhibited in nature. The properties which we discover in perfect natural forms are more or less associated with artificial forms. These must consequently be

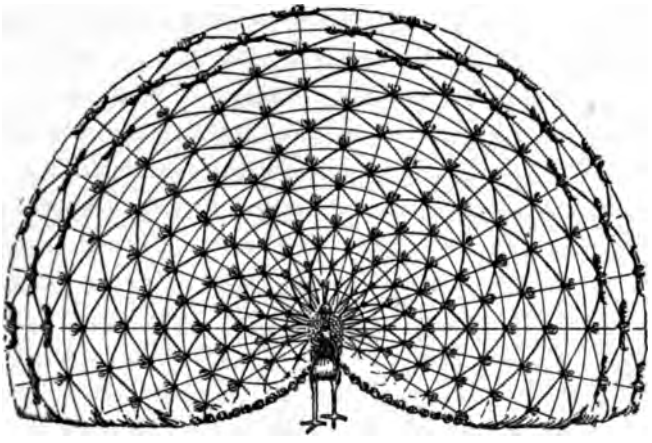


Fig. 12.

in harmony with the fundamental laws of nature and of geometry. In other words, an esthetic form and its contents must be designed in such a manner that it gives to the eye the impression of equilibrium and harmony. It is said that the Greeks effected harmony in the distribution of masses by the abstract formula of the Golden Section, as it results from the construction of the regular pentagon.[1] To-day it is exceptional if an artist or architect designs his forms according to a rational system. Symmetry and equilibrium are

[1] See also the works of Pfeiffer, *Der goldene Schnitt* (1885); Zeising, *Die Proportionen des menschlichen Körpers* (1854); Lersch, *Die harmonischen Verhältnisse in den Bahnelementen des Planetensystems* (1880).

often destroyed when there is not the slightest reason for doing so. The classic forms of antiquity are declared to be products of a naïve mind, when judged from a modern standpoint. But let it be understood that the Greeks revealed an intuition and a conception of esthetic forms which is far superior to that of some modern critics.

ARNOLD EMCH.

UNIVERSITY OF COLORADO.

ETHICS OF CHILD-STUDY.

CHILDREN have been the delight and solicitude of their mothers from the beginning of the race; they have brightened by their presence the miserable household of the cliff-dweller, and the palaces of the great of all times; the love of children inspires even the brute creation, and is the sweetest flower of human life. Eternal youth is the choicest privilege of the Olympian deities, and their most cherished gifts to favored mortals. To be young, means to be happy—such is the fancy of a multitude. Yet, strange to say, with all this worship of youthfulness, there is little to be found in ancient mythologies of "any real child-worship or artistic concept of the child as god. Not even Rama and Krishna, or the Greek Eros, who had a sanctuary at Thespiæ in Bœotia, are beautiful, sweet, naïve child-pictures; much less even is Hercules, the infant, strangling the serpents," or other such mythological children. They are symbolical, but not real.

When Jesus of Nazareth gathered the little ones about him, when he called out: "Suffer little children to come unto me, and forbid them not, for of such is the kingdom of heaven"; when he warned the populace: "Verily, verily, I say unto you: except ye be converted and become as little children, ye cannot enter the kingdom of heaven,"—then the gospel of childhood was given to the world. The Christ-child became the symbol of holy childhood —all children became sanctified in him and through him. Wondrous tales sprang up, all having the child Jesus for their center; the birth of the world's Saviour, his lowly bed in the manger, the light that went out from his sweet presence; the sacred mystery of

the relation of mother and child, represented by the Madonna who was the theme of many a poet's song, the motif of many an exalted work of art: all these influences gradually brought about a new concept of, and gave a deeper meaning to, childhood. Looking at Raphael's wonderful painting in the Dresden Gallery, with the glorious Christ-child in the arms of purest motherhood, with the radiant faces of angel-children dotting the farthest depths of the sky: every one, even the non-believer, or non-Christian, is inspired with a sense of indescribable rapture and reverence; and around the Christmas-tree are woven the golden threads of Christ-child legends that entwine the hearts of tender babes with sweet, but irresistible force.

Since then, childhood has become a sacred thing to us, and we have learnt to revere in the intuitiveness and directness of children's feelings and instincts the revelation of a divine power which has become lost to the adult who allows himself to be governed, and hedged in, by numberless prejudices and conventionalities that have estranged his soul from the truly eternal which speaks in a low voice to the ears of unsophisticated children. Poets, and the verdict of the people in many lands, have expressed this thought in most varied language.

"He hath grown so foolish-wise
He cannot see with childhood's eyes;
He hath forgot that purity
And lowliness which are the key
Of Nature's mysteries."

"Childhood," says Ruskin, "often holds a truth in its feeble fingers which the grasp of manhood cannot retain, and which it is the pride of utmost age to recover."

"And still to childhood's sweet appeal
The heart of genius turns,
And more than all the sages teach
From lisping voices learns."—*Whittier*.

"Children always turn toward the light," says Hare. The following is Schopenhauer's sentiment: "Every child is, to a cer-

tain extent, a genius, and every genius is, to a certain extent, a child." And Ruskin again: "The whole difference between a man of genius and other men . . . is that the first remains a child, seeing with the large eyes of children, in perpetual wonder, not conscious of much knowledge,—conscious, rather, of infinite ignorance, and yet infinite power." (*Stones of Venice.*)

There is also a well-known passage from George Eliot's *Silas Marner:* "We see no white-winged angels now. But yet men are led away from threatening destruction: a hand is put into theirs which leads them forth gently towards a calm and bright land, so that they look no more backward, and the hand may be a little child's."

To preserve the peculiar force of youthfulness even in the declining years of our life, has always been the most ardent desire of active people. I mean that youthfulness which is directness, spontaneity, and innocence of feeling even though there were sad realisations of the power for evil; that youthfulness which is nearest to the fountain-head from which the race has sprung, and which exhibits the race-character most faithfully; that youthfulness which remains instinctively in touch with the original forces of life which make for godliness, for purity, for righteousness. I mean that youthfulness of which Guyau says: "To remain young long, to remain a child even, in the spontaneity and tenderness of the heart, to preserve ever, not only in the outer behavior, but in the inner life, a certain lightness, a certain elasticity—this is the best way to rule our lives; for what greater force is there than youth?" I mean that youthfulness which perpetuates the golden age of childhood, *die heilige Kinderzeit*, the heaven of infancy. As Alexander F. Chamberlain, in his valuable book, *The Child and Childhood in Folk-Thought*, puts it: "The Paradise that man lost, the Eden from which he has been driven, is not the God-planted Garden by the banks of Euphrates, but the 'happy days of angel infancy,' and 'boyhood's time of June,' the childhood out of which in the fierce struggle for existence the race has rudely grown, and back to which, for its true salvation, it must learn to make its way again. As he who was at once a genius and child, said nearly

twenty centuries ago: 'Except ye turn and become as little children, ye shall in no wise enter the kingdom of heaven.'"

If it is beatitude to *remain* young, should we not at least grant this bliss to those who are still young? Should we not allow our children to remain young as long as they can, should we not do all in our power to "lengthen the days of plastic infancy" and of spontaneous childhood? But are we not in reality impatient to have them grow old before their time? Are we not artificially hastening and stimulating their development so that they be little men and women, with knowing eyes and *blasé* smiles, suffering from fatigue and ennui, being graduates and holding diplomas before they have shed their first set of teeth? Or toiling and pining away in stores and factories with their wee, weak bodies before their life-forces have in any way matured? The wicked struggle for existence in a world which is ruled by greed and passion, by emulation and chaffering, has driven them out of the paradise of childhood, and it remains closed to them forever. The poets sing of the lisping voices to whom the genius turns for inspiration; the philosophers envy the child's intuitive power to recognise the divine truth: but in our homes and schools we speedily check this spontaneity and directness to substitute conventional modes of thinking and artificial systems.

There is a great gap between our theories and our practice, in this as in other things. It is true: there are *spoiled* children,—such that have been coddled and indulged until they became intolerable caricatures, self-important, self-willed, self-conscious; without humility and reverence, their hearts swayed by every impulse and desire. Parental love whose product is an unchildlike child, deserves not the fair name of love: it is ignorance, it is vanity, it is self-indulgence. No mother's child is spoiled who loves her child more than herself. The corruption of the sweetness of a child's nature is wrought by such parents who idolise and unduly exalt *themselves* in their children, or who treat them as instruments of pleasure and play, or who are too weak not to move along the line of the least resistance.

As a rule, what of education we give our children is rarely a

discreet guidance, mostly a direct interference with their natural instincts and legitimate needs. The majority of children are ever on the defensive, and consequently suspicious of their so-called educators in whom they see their natural enemies and the futilisers of their innocent pleasures,—the embodiment of brute force that wages war against their spontaneous self-assertion. Many a child will never show his true face to his parents or teachers, and hides his real feelings in the deepest recesses of his heart. Watch him when he thinks himself unnoticed, when he is at play with himself or with his companions, and you may experience many a new revelation. The "naughtiness" of children, their disobedience and stubbornness, their lies and what not, are often but the manifestation of the sense of injustice done them, of not being rightly understood anyway, or sympathised with from a *child's* point of view; they may be symptoms of self-defence and rebellion against an authority which was not of their choosing and which they do not feel as being genuinely beneficial.

Think only of the sufferings of the "stupid" child. Real stupidity is a great affliction but which rarely receives the sympathy it stands so much in need of. But many children who are thought stupid are not stupid at all. They may have certain defects of a physical nature which can be remedied, or their schooling and education in general is of a kind that is not adapted to their special needs. If a juggling with figures, erroneously called arithmetic, is made a test of intelligence, then the constructive or artistic genius of a child may remain undiscovered; and if parents and teachers judge those children to be bright who can, by so-called parsing, arrange the dead bones of the language in artificial order, or who shine out from the others by brilliant recitations and unchildlike discussions of adult problems at graduation exercises: then the dreamer, the philosopher, and the poet will pass for dunces. It is only too true that many of our greatest minds have been considered absolute failures during their school career, not to say in the homes of their childhood. How many of them had to assert their native excellency against the most violent resistance of those who were too blind to perceive the divine spark in their children's souls!

There is the case of a little boy reported by John Dalziel in the *School Journal* of December 26, 1896. I quote from this report the following: "The mother's statement in this case was 'that ever since he was a baby he had given her a great deal of trouble from a habit of knocking things over.' As his eyes were perfect, and he could see the objects and play with them, his parents did not suspect there was any defect in his sight, and consequently he was punished for what appeared to be wilful mischief, and that which seemed still worse, trying to lie himself out of the punishment by saying he did not see the things there. This determined persistence in lying was the cause of all his afflictions; it was, however, accompanied by an aggravating habit of making grimaces at the person questioning him, a sure sign of natural depravity. As is frequently the case with children when they know they are being punished wrongfully, this boy resented the ill-treatment by stoic endurance while under the rod, thereby gaining the additional stigma of being vicious and incorrigible.

"With such a character, gained at home, he was taken to an asylum for feeble-minded infants for the purpose of being disciplined.

"At first, in the new surroundings, he brightened up, but it was not long before the teacher had full evidence of his obstinacy. The importance of beginning right was fully understood, and the teacher, taking an object in her hand and holding it before the boy's face, asked him, while he was to all appearances looking directly at it, 'What is the name of the object in my hand?' The child twisted his face up, and with a grimace asked, 'What object?' Here was confirmation of the bad character he brought with him. His head was held to face the object and a correct answer demanded; then followed the usual answer, 'I cannot see anything'; for such obstinacy and prevarication there was but one remedy.

"The child was desirous of pleasing his teacher and watched her closely so that he could occasionally name the object held up; this, however, only made his conduct at other times less tolerable. As a crucial test the teacher would hold a pin before the boy's face,

and upon his statement that he could not see anything, the point would be brought in contact with his nose, producing a cry and the statement that 'it is a pin'; severe punishment followed this experiment.

"Fortunately for the child he became sick. An oculist after examining him stated that there was a defect in his sight, but the exact nature of it was not easily determined.

"After this the child was treated less severely, but all his endeavors to prove himself truthful were futile, and the poor little fellow pined away slowly and died, without any adequate cause in the shape of physical disease.

"At the request of the oculist, the boy's brain was given to him for examination; he found that the nerves of sight were disconnected, which would render it impossible for the child to see any object in front of his face, but that he could see all objects on either side of him; and only by twisting his head and shutting an eye would he be able to see things in front of him.

"The remorse felt by his former teachers can be readily understood, but what a picture it is! Who can appreciate the acute mental suffering of the infant when punished by its mother for untruths it did not tell? Think of the effect upon the mind of a child deprived of food, kept in confinement, and flogged for failing to comply with requirements it had no means of comprehending!"

From my own experience, I might quote many cases. It is, e. g., interesting how differently children impress different observers, their parents and teachers. Following are a few examples[1]:

CHILD AS REPORTED FROM HOME:	CHILD IN SCHOOL:
Conscientious.	Careless.
Brilliant.	Well-meaning, but backward and rather dull.
Full of application.	Lacking application.
Depraved (!).	Very good and reliable.
Passionate.	Self-controlled.

It may seem difficult to harmonise such diametrically opposed statements, and yet they indicate nothing but different reactions of

[1] Quoted from the author's *A Working System of Child Study for Schools*, Bardeen, Syracuse, p. 27.

the child upon different environments, and if studied with a satisfactory knowledge of the determining factors, they will serve to illuminate the secret recesses of the child-soul, and lead towards a better understanding of its needs.

But how often does it happen that these different manifestations are compared and studied intelligently? How many children are there who go through life misunderstood and misjudged!

That there is a very distinct relation between *health* and *conduct*, is realised by a very few. Let me illustrate this fact by a few examples from my note-book[1]:

There is an interesting case of a girl who was eleven years old at the date of the latest report. Formerly having been reported to be of fair intelligence and an average worker, though being a spoiled child, all at once she seemed to degenerate. The teachers complained of her apathy; she could not answer the simplest questions and was falling away behind her class. She was thought either stupid or negligent. Most of her time was spent in play; she appeared indifferent, lazy, making no effort. In sewing alone were good work and satisfactory interest reported.

When the case was referred to the school physician, the following diagnosis was submitted: Certain deformities of mouth, teeth, etc., indicative of degenerative tendency. Enlarged tonsils, a nasal catarrh, adenoid vegetations; a mouth-breather; slightly deaf and nearsighted. Frequent headaches. This diagnosis of course explains all the symptoms above described. The child did not answer the simplest questions because she did not hear them; she could not follow blackboard directions because she did not see them. On the whole, her physical condition made it impossible for her to make mental exertion and to do justice to the work of the class. She was placed under treatment; the tonsils were resected, the vegetations removed. Then there was a general improvement, even though it was indeed a slow process to overcome acquired habits which had been allowed to develop during a relatively long period.

---

[1] Quoted as above, pp. 34–37.

Attention must be called to the bad effect which nasal obstructions and enlarged tonsils have upon the general mental habitus of a child; mouth-breathers should be carefully singled out and placed under treatment. There are often aural defects resulting from such conditions so that the sense of hearing is impaired. There is such a large percentage of children whose hearing, or vision, is defective and who, their trouble not being rightly understood, are classed among the dull or obstinate and treated accordingly, that too much caution and conscientious observation cannot be recommended to teachers and parents.

The case of a boy of six: formerly the pride of the kindergarten, in spite of his extreme youth. Showed fine reasoning ability, was deeply interested in everything, bright, active, inventive. Then all of a sudden the teachers noticed that he looked very pale, seemed tired, had lost interest, and everything was such an effort to him. Doctor's report: "Indications of a mild form of chorea" —that curse of precocity. Rest and treatment cured the boy.

Very instructive is the case of a colored girl of twelve. She had never been very bright or attentive, according to the teachers' reports. Yet she seemed cheerful. Lazy and without effort. The teachers of her class recommended her dismissal for general inability. A consultation with the mother and the school physician revealed the fact that the girl was suffering from *grand mal* (epilepsy) and was generally in poor health. On some days she was really too miserable to go to school, and yet she insisted on going. A few times, she was overcome by attacks of vertigo in the street, in going home from school, and had to be attended to by passers-by.

Time and treatment were granted her. Gradually she picked up and improved steadily. The later reports showed a very different girl: intelligent, bright, quick. The teacher who had been most emphatic in demanding her dismissal, wrote: "She is one of the girls in the class upon whom I can best depend. Is anxious to do her best, and is doing very good work." The only indications of her trouble still left were a certain sensitiveness, excitable temper, occasional headaches, and nausea.

These cases teach a tremendous lesson. We cannot mould

the children at will—their souls are not a white sheet upon which we may write what we please. We must study each individual child so as to understand him, we must respect the child's psyche as something divine. Children are not given to us as a chattel to do with them as our fancy may direct—they are a sacred charge entrusted to our care; they are a draft upon the future for whose faithful satisfaction we are held inexorably responsible by the generations that come after us. In a voice of thunder spake the God of Moses, and in the awful majesty of his words he revealed a divine truth: "I will visit the iniquity of the fathers upon the children, and upon the third and fourth generation of them that hate me!"

Child-study as inaugurated by eminent psychologists of the present day, is a new appeal to the conscience of educators. It revives the gospel of divine childhood as it was brought into the world by him whose heart reached out even unto the little children whom he suffered to come to him and forbade them not, and who was himself born a child of lowliness and deprivation, whose entire career from birth to crucifixion was one divine martyrdom.

The field covered by these modern researches into the nature of the child-soul and its development is vast, and the results are, even though as yet fragmentary, quite gratifying. Not everything made manifest by this new science is new; but it is given new force and significance, and it is made better understood in its causality and in its relations.

If I venture to call attention to a few facts as disclosed or freshly emphasised by child-study, it is with the consciousness of the inadequacy of an attempt to do justice to the subject in the few pages at my disposal. But what is needed first of all is the realisation of the fact that child-study has an ethical aspect, and that it is the solemn duty of every parent and teacher to be a student of child-nature.

A child's evolution, physical, mental, and moral, as the customary classification has it, culminates in the formation of character. The young soul passes through a number of successive stages, or periods, all differing from one another, and each con-

tributing its specific share to the individuality which is to be. Each stage needs a special recognition, and special treatment. To say that the infant is a very different being from the primary child, the child from the boy, the boy from the youth, the boy from the girl, sounds like a mere truism. But few of us know how great these differences are, and how careful and detailed a recognition they require. It is a new discovery that there are what is called *nascent* ("budding") periods for very specific capacities and studies, when the soul strikes out on new paths; if these periods are ignored, or allowed to pass by unutilised, an opportunity may be lost never to return. The part the play-interest plays in the development of the child-soul, has only recently been better understood. Let us be reminded that there are nascent periods even for such things as morality and religion. The young child is neither a moral nor a religious being in the strict sense of these terms. He is a savage, as it were, with primitive notions; he is a heathen and idolater. There are distinct stages in the evolution of ethical and religious ideas and feelings, and much is the need of wisdom on the part of the educator in following these and making the right use of them.

It is especially in the pubescent and adolescent periods (twelve to eighteen or twenty) when these developments culminate, and when consequently our young people need the greatest care and the most discreet guidance. Why is it that there is so much of mental and moral disturbance in the minds of our young people? Why are their ideals vague and fragmentary, often low and degrading—why are they, especially our girls, so frequently found deficient in health and vigor, in genuine enthusiasm and the power of self-control and endurance, at an age which should mark the height of vital energy? Why is there so much morbid nervousness and harassing unhappiness in the family life? In a large measure this is due to the fact that we have yielded to false standards in the education of our adolescent children—that we do not surround them at this critical period of their life with the right influences; that we fail to understand their physical and psychical needs; that we treat them all alike after the same pattern. "About the time puberty makes its appearance," says Dr. Christopher, "we find the modern

girl is either preparing to enter High School or has already entered. This is the period in school life when the greatest labor is thrown upon the student. There is a change to new studies and an excessive amount of the old ones; the long hours of study call for an amount of labor the child is incapable of supplying, or if she does the work, she expends at the time energy which should be stored up for future use. With the boy of this period, the case is similar, though the development of the two sexes runs by no means parallel; yet the mistaken way in which the right principle of co-education is put in practice, forces boys and girls into a parallel course of study which does neither sex full justice. The adolescent child requires much greater care and study than has been his or her lot heretofore, and many lives have become warped and ineffective because of lack of discretion and proper influence at this stage.

Proper influence at any stage ought not to mean the suppression of the child's native instincts and a substitution of our own ideas, notions, opinions, prejudices, habits, and the like in the children's mind in place of what would be the outcome of their self-activity. A child is so easily misled into an imitation of the ways of his companions, his parents and teachers. He is naturally imitative, and open to suggestive influences—ready to follow the example of those around him. "Nothing," says La Rochefoucauld, "is so contagious as example. It lets loose in our lives those bad actions which shame would have kept imprisoned." And Hosea Ballou said in one of his sermons: "Education commences at the mother's knee, and every word spoken within the hearsay of little children tends towards the formation of character."

No temptation is greater for the educating parent and teacher than to impress the children under their care with the importance and infallibility of their own opinions and peculiarities. No inheritance is so sure as that of prejudices. Lew Wallace, the author of *Ben Hur*, in speaking of the Sadducean views and partisanship of the father of his hero, says: "In the natural order of things, these circumstances and conditions, opinions and peculiarities, would have descended to the son as certainly and really, as any portion of his father's estate." And in our modern times, it is con-

sidered the natural order of things that the son of a Democrat be also a Democrat; or that it is the divine right of parents to have their children grow up in the same religion they cherish themselves. This right, however, must be disputed. I am aware that many will take exception to this view. And I can sympathise with the opposing attitude. I know from personal experience that such things are matters of emotion rather than of reflexion. I have myself felt those heartpangs which come to us when our children develop ideas and ambitions foreign to our own cherished hopes. And yet, I disagree with the doctrine of parental dictatorship over their children's consciences.

I believe in the divine right of each child to be himself, and not the copy of anybody else, even be it his parents. There is enough they will take from us unavoidably. Indeed, let us set before our children noble examples, but not so much for imitation as for inspiration. Let us inspire them with a love for the beautiful, an enthusiasm for the right and true, a reverence for the eternal: but allow them at the same time to preserve their individual taste, to feel according to their own temperament, to create for the abstract conception of eternity and infinity their own symbols. Inspire them with respect for the courage with which you stand up for your own convictions; but do not insist that your convictions must hold sway over their consciences. A conviction is a growth, and this growth is dependent upon many determining factors not easily understood and never fully controlled. A conviction is the expression of an individual attitude, and this attitude is our own, and can be assumed by another as little as he can stand where we stand. The same object will appear very different to each one of us, because there are a thousand and one differences in the power of vision. If we respect our children's individual attitude instead of forcing them into the Procrustean bed of our own, they will learn to respect our own and other people's conviction in return, and that will be a decided gain for character. Our opinions may be erroneous, and if we confuse respect for ourselves with respect for our opinions, we may lose both at one stroke. "What thinkest thou of his opinion?" asks the Clown of Malvolio in *Twelfth*

Night, and Malvolio answers: "I think nobly of the soul, and no way approve his opinion." Let that suffice unto us: let us teach our children to think nobly of our soul, our aspirations, our character, our ideals, our courage, our virtue and reverence,—no matter whether they share our opinions. "Truth," says Wendell Phillips, "is forever absolute, but opinion is truth filtered through the moods, the blood, the disposition of the spectator." "The opinions of men who think," says Hamerton, "are always growing and changing, like living children." And Lowell: "The foolish and the dead alone never change their opinion."

Who knows but that we may change our present attitude towards certain problems before long? Can we undertake to thrust our present opinion into the growing brain of a child that it may there become the starting-point of a growth which we cannot control? It may be easy enough for an adult to liberate himself of an opinion and change his mind; but those notions which have been implanted into our souls during the plastic years of our childhood, have become encysted there, as it were, mostly in a pathological way, and form the basis of those prejudices and idiosyncrasies which haunt us all through life and make us one-sided and intolerant.

We ought to develop and jealously preserve in our children the ability to think for themselves, and should not grieve too deeply when their thought leads them to other results than our own, as long as they aspire to the highest, as long as there is a noble purpose, a love for truth and righteousness, and sympathy and ready helpfulness for others. Unless we develop in them that power of independent thinking, they will fall easy victims to every popular folly. "The greatest part of mankind," says Johnson, "have no other reason for their opinions than that they are in fashion." This fact is the sad cause from which, in times of excitement and frenzy, the mob mind arises,—carrying away before its outburst all there is of reason and duty. Children who will not be allowed to learn the art of thinking and deciding for themselves, will never develop that strength of character which is the best safeguard of the moral life, and which will produce that noble intrepidity from which springs the power to cling steadfastly to our convictions, even

though an infuriated multitude may surge around us with threats: that calmness and serenity of mind which found expression from the lips of the sufferer on the cross: "Father, forgive them, they know not what they do."

Will you not rather have your son follow this exalted example than join the common herd of those who find it "easier as well as more advantageous to conform themselves to other men's opinions, than to bring them over to theirs"? (La Bruyère).

As a matter of fact, no one's opinion fits any other individuality without modification. Our duty as educators is to put the child into such a position that he may work out his own salvation, his individual destiny. Of the educator's example, U. S. Commissioner of Education, Dr. Harris, has said somewhat paradoxically, but with much of significance: "Of course the teacher should be an example, but she should be careful that no one follows her." That is good doctrine. The same thought was expressed by W. E. Channing thus: "The great end of instruction is not to stamp our minds on the young, but to stir up their own; not to make them see with our eyes, but to look inquiringly and steadily with their own; not to give them a definite amount of knowledge, but to inspire a fervent love of truth; not to form an outward regularity, but to touch inward springs; not to burden the memory, but to quicken and strengthen the power of thought, to awaken the conscience, so that they may discern and approve for themselves what is everlastingly right and good."

Every child is unique; and the fond mother who strokes her boy's curly head caressingly, and imagines there is no other like him, is certainly right. He may not perhaps excel all others, but he is, with all his possible faults, a most fascinating study to the lover of child-nature, different from all others, a combination of forces absolutely unique and not admitting of duplication, full of mysteries and potential revelations. To do justice to this

> "· · · · sweet, new blossom of Humanity,
> Fresh fallen from God's own home to flower on earth,"[1]

[1] Gerald Massey.

so that it may bloom forth in all its peculiar beauty, we must carefully study him. Just because he is unlike other children, it will not suffice to treat him as any child may be treated. Certainly, all children have some things in common, but not all simultaneously, or in the same proportion. To speak of the "average" child is an absurdity. He does not exist; he is a mere abstraction. It is idle to make rules for average children, for every living child is an exception to the rule. If we want to do the right thing educationally, we must remember Goethe's word:

"Ach, wir können die Kinder nach unserm Sinne nicht formen!
So wie Gott sie uns gab, so muss man sie haben und lieben,
Sie erziehen auf's Beste und jeglichen lassen gewähren;
Denn der eine hat die, der andere andere Gaben;
Jeder braucht sie und jeder ist doch nur auf eigene Weise
Gut und glücklich . . . ."[1]

Respect for the individual soul of the child! To suppress it is crime, and to murder the soul of a living child is as wicked as to starve his body.

"Impartially their talents scan,
Just education makes the man."[2]

As Plato put it: "Do not train boys to learning by force and harshness; but direct them to it by what amuses their minds, so that you may be better able to discover with accuracy the peculiar bent of the genius of each."

To be sure, it is not an easy task to scan the talents of a child impartially so as to make a just education possible; for all of us are more or less influenced by preferences and dislikes; and to discover with any degree of accuracy the peculiar bent of the genius of each, requires much tact, insight, patience, love, and discretion.

---

[1] In my imperfect translation:

"Fashion we cannot our children conforming with preconceived notions!
God has fashioned their souls, and as such we must cherish and love them,
Train them as best we know how, and allow each one his own freedom;
For each child is endowed with gifts and talents to suit him;
Differing all, each doing his own work, each only in his way
Good and happy . . . ."

[2] Gay, *To a Mother*.

Full play must be granted to all the different activities of the mind, so that whatever talent there is may manifest itself. There must be as much freedom from restraint as is compatible with the circumstances under which the child lives; and whatever direction and help is offered, must be administered with the utmost care so that the spontaneity of the child, his confidence in parent and teacher, be not checked. Too easily is a child discouraged, or repelled, and then his inner self, his true self, recedes into the deepest hiding-place of his own little heart, and his outward self will forever be a sham and coventionality, or he will spend himself in resentment and unhappiness. Let us not forget Goethe's word:

> "Differing all, each doing his own work, each only in his way
> Good and happy . . . ."

An instance may be quoted as reported by a woman of deep insight into the workings of the child-heart,—which sheds a flood of light upon the feelings of many children, and upon the mistakes we sometimes make in dealing with individual souls.

"I knew an instance of a child whose violent outbreak of temper was followed by such a tenderness of contrition as overcame his pride, which did not like to say that he 'was sorry' he had been wrong. Nevertheless, the love for his mother and the distress at having grieved her overswept all other feelings. He watched his chance when she was alone to creep to her side and say aloud to her the words that for three nights he had been saying over to himself in bed, though the daylight took away his courage to speak out. And the mistaken mother, instead of gathering her boy to her heart, as no doubt she longed to do, felt that this was a God-given opportunity to labor with him over the sinfulness of his evil temper, with the result that never in all her after-life, though he went wrong many times, did he turn to the heart of his mother for pardon and pity and love. She, alas! did not know the harm she did, and he, poor child, did not know what it was that drove the flood of his sorrowful penitence back into his own heart, and sent him away angry and sore, and sorry that he had spoken at all." (Mary Lowe Dickinson.)

In recognising the differences of our children, let us not worry that they *are* different. If they are quick to temper, let us not complain: they may also be quick to repent, and quick to learn. If they be lazy, let us be patient: they may need more sympathy than blame. "Perhaps we should not attribute much more praise or blame to the industry of one individual and laziness of another than we do to the plumpness of one and the leanness of another." (H. S. Curtis, *Child Study Monthly*, Dec. 1897.) There are *causes* for all these differences, and while each peculiarity may have its drawbacks, it has also its advantages. We have only to take care to recognise the real needs of the child. There are few but will fit into some groove of peculiar usefulness,—let us be content with this reflexion, and not try to force a child best fitted for one place, into another which strikes our fancy better. If there were not these manifold differences and varieties, how could this race of ours exist, with the multiplicity of service needed to keep up and develop civilisation and culture? *Service* is the key-note of genuine success. As long as our child can render service, however humble, as long as he can fill his particular place, so long let us be thankful. But this success will be largely of our own making: only by understanding, and ministering to, the individual needs of our child, shall we make—or unmake him.

Says James Cotter Morison in his Essay on Gibbon: "A good education is generally considered as reflecting no small credit on its possessor; but in the majority of cases it reflects credit on the wise solicitude of his parents or guardians, rather than on himself." And let us be sure about one thing: a day laborer needs just as good an education in his way, as a college professor in his; for education is not a matter of grammar or geometry,—it is a matter of growth, of spiritual maturity, of fulness of serviceableness, of character.

It is a not uncommon experience that mothers who in the first pride of their sweet dignity will protest there is none like their boy, will gradually begin to wonder in the deepest depths of their grieved hearts "whether other bright women could have such stupid children." To these afflicted creatures we may extend this

consolation: whatever apparent faults we may discover in our children, however provokingly rude, or irresponsive, or stupid they may appear at times, there is hope they will turn out all right in the end. What harasses us may be only symptoms of growth with its seeming inconsistencies, capers, and caprices. Only let the child be himself; know him, love him, trust him, be patient and discreet; lead him gently onward: and he will repay your solicitude a thousandfold.

From an ethical point of view, the moral and religious evolution of the child-soul is of particular import. It has been indicated before that this evolution takes place according to biological laws. These laws must be studied and regarded; we should not try to force this development prematurely, but give each stage its due. The child passes in this evolution through stages which are broadly parallel to those through which the race has passed; and as we cannot expect a Zulu to grasp the ethics of Kant or Spencer, likewise we cannot hope to make a child of school age appreciate abstract morality or the doctrine of salvation. There is a long way from the egoism of the savage and the baby to the altruism of the moral adult of modern civilisation. But if it be true as regards children generally that great caution must be exercised in dealing with the problem of their ethical and religious education, it is particularly true that the moral adjustment of the *individual* child is the result of very individual conditions and influences. Prof. Earl Barnes has shown with considerable force "that how we think the child *ought* to feel has nothing to do with our problem; that it is with us to discover how the child *does* feel." "Average" notions will help very little in treating particular cases, and every child has a very particular mind of his own. His individual attitude and its motives must be understood, his individual stage of development must be considered. Conscience is of slow growth, and a very sensitive plant at that. I have therefore more and more approached the conclusion that in the matter of ethics and religion individual methods should be employed almost exclusively. Class instruction may be a helpful adjunct in the objective part of this training—concerning the history of religions, or purely academical disputa-

tions of intellectual problems in ethics. But then its place is not in the early years of childhood; it will properly be found at the stage when the child has laid the foundation of his subjective morality and religious attitude. So-called ethical and religious lessons in schools, Sunday schools, and the like, are of service in certain directions, at certain stages, and under certain conditions. However, as they are generally understood and conducted they are apt to do more harm than good. Their effect is mostly nothing but a purely external conformity to established institutions, a surrender of independent thinking to other men's opinions: cant and hypocrisy in all their forms. True religiosity is a matter of spiritual growth within the individual: it is that which is most peculiarly our own, and which in its deepest meaning we cannot share with anybody as it is incommunicable. Home and school and the entire educational environment will indeed exert a powerful influence upon the growth of the ethico-religious character; but this influence should be one of *spirit* rather than direct teaching if it is to be genuinely wholesome. Direct moral and religious influence must wait its chances, and these chances come at different moments with different children, and are of so subtle and evanescent character that it requires all the alertness and tact of the educator to turn them to best use. The temperament of the child is an important factor. There are distinct differences between the children in attitude and idealism.

In this respect, two main groups may be distinguished: those whose development is gradual, and those who pass through periods of storm and stress, doubts and awakenings. Professor Starbuck, of Clark University, in his paper on the "Psychology of Religion" (*American Journal of Psychology*, Oct., 1897), speaks thus of adolescents: "One can scarcely think of a single pedagogical rule in regard to religious training after the end of childhood which might not violate the deepest needs of the person whom it is the purpose to help. The first demand is that the teacher or spiritual leader shall know something of the case he is to deal with,—his training, his temperament and the present trend of his life. It requires careful reading into human nature to know what a person needs and is

ripe for; the magic stroke which is to change a child into a man. . . . Each stage should be a preparation for the next, so that the person may emerge naturally and evenly into a strong, beautiful, spiritual manhood or womanhood."

The immediate result of this new aspect of child-life will be a revision of all our educational standards. Mass education must give way to individual methods. Home and school are both affected by the gospel of childhood. We must have more intelligent parenthood, and a different view of the meaning of school education. "Soon the entire curriculum will have to be reconstructed not with a view to the needs of adult life, but with a view to the needs of the growing organism at each stage of its varying development, the proper food and nourishment at one stage having no necessary logical connexion whatever with the requirements of later stages, or even being a positive poison if given after that period—growths probably being demanded at certain periods which must later be sloughed off, absorbed, or transformed." (A. Caswell Ellis, "Philosophy of Education," *Pedagogical Seminary*, Oct., 1897.)

Home and school must necessarily co-operate to bring about the best results in an individual valuation and treatment of our children. There must exist a relation of utmost frankness and mutual confidence between parent and teacher. They have a mission in common, and this mission is a noble one indeed: to cherish a young blossom on the tree of humanity that it may thrive and bear fruit to be a blessing to succeeding generations.

Happier than now will be the days of childhood when each one of our beloved little ones receives back from our hands his birthright—that of being himself. And happier shall we be, also, who shall be blessed in our children. Verily, the divine message is full of profound meaning: "Except ye be converted, and become as little children, ye cannot enter into the kingdom of heaven." Yea, truly, by living with our children, by observing and lovingly studying their childish ways, by entering into their spirit: a new revelation will come to us, a new life of unspeakable sweetness and tenderness and felicity. We shall learn once more to be one with nature and the eternal powers that manifest themselves in her

and work for perfection and righteousness. We shall once more distinguish the dross from the gold, and cast out the sham, the false, the conventional, and return to what is genuine and true and everlasting. We shall find the veritable fountain of youth, and bathing in it, the dust gathered from the roadside of our weary lives will wash off, and we shall be clean and fresh and vigorous. Eden will open its gates once more for us; in the paradise where our children live, we, too, may once more taste of the sweetness of all the flowers and fruits therein, even though we may have sinfully eaten from the tree whose fruit made us conscious of good and evil and placed us in danger of spiritual death. And love will then reign supreme, and forgiveness, and mutual understanding, so that we live together with our brothers and sisters in one communion of souls, bearing and respecting our differences, and uniting our forces in the common cause of humanity. And all that will be the work of our children from whose eyes there will come this new revelation. From the mouth of tender babes will come the gospel of good-will to men. Truly it has been said: "The debt of humanity to the little children has not yet been told." In the words of our American poet:

"Ah, what would the world be to us
If the children were no more?
We should dread the desert behind us
Worse than the dark before.
What the leaves are to the forest,
With light and air for food,
Ere their sweet and tender juices
Have been hardened into wood,—
That to the world are children;
Through them it feels the glow
Of a brighter and sunnier climate
Than reaches the trunks below.
Come to me, O ye children!
And whisper in my ear
What the birds and the winds are singing
In your sunny atmosphere.
For what are all our contrivings,
And the wisdom of our books,
When compared with your caresses
And the gladness of your looks?
Ye are better than all the ballads
That ever were sung or said;
For ye are living poems,
And all the rest are dead."—*Longfellow.*

MAXIMILIAN P. E. GROSZMANN.

THE GREEK MYSTERIES, A PREPARATION FOR CHRISTIANITY.

CHRISTIANITY, while marking a new epoch in the history of religion, did not appear suddenly and without due preparation; on the contrary, it grew slowly; and we are able to trace almost all of its essential elements to antecedent conditions. The whole is new, but its ingredients are old. The various component ideas existed previously in dim and scattered notions. Christianity focussed them into one great system. It rendered the most powerful pre-Christian aspirations and visions of religious yearnings concrete by embodying them in representative figures, especially in Christ, whose picture became the center round which all church institutions and doctrines crystallised.

The doctrines of Christianity are not accidental formations; they are the necessary product of a long development and the result of a mixture of various religious traditions. In an historical sense Christianity is truly and unequivocally the world-religion, for it assimilated almost all the cosmopolitan faiths current in the Roman empire. It discarded those elements only which had become absolutely unacceptable. It absorbed in a popular form the spirit of the most elevating philosophy of the times, and adopted a Puritan-like, at times even an iconoclastic, conception of God. While acknowledging the significance and potency of human sacrifices and other barbaric rites, it so transfigured their conception as to render them forever harmless by declaring their fulfilment in the sacrificial death of the Saviour on the cross.

Christianity is not the doctrine of one Church, nor the religion

of one age. Christianity is an historical movement, the roots of which lie buried in the dim past of prehistoric life. It finds expression in many churches and in various doctrines, and we must not expect consistency. The Jewish Christians, or Nazarees, held different views from the Gentile Christians with their Pauline theology, and the world-conception of Protestants is in many respects radically opposed to the faith of the Roman Church. Nor are these differences limited to doctrine; they find expression in ethics. The quintessence of the Nazaree religion consisted in the practice of communism, while all the great Churches of to-day agree in denouncing communistic doctrines as un-Christian. The early Church, represented by the Church Fathers, denounces image-worship as idolatrous; but the State Church of the Roman Empire condemns iconoclasm as impious and introduces the worship of the saints as an essential part of its institutions. All seems fluctuant and contradictory, but we shall easily comprehend the situation if we reflect that Christianity is not a specific doctrine but a religious movement developing various forms in various countries and passing through different phases.

Christianity does not exhibit one and the same principle throughout, but for that reason its underlying tendency is not indefinite. Christianity as a religion is the conviction cherished by those who call themselves Christians; it is subjective and a matter of individual consciousness. But Christianity in history is the historical movement that produced these dispositions in the hearts of various people; and this historical movement which is centered round the person of Jesus of Nazareth has for nearly two millenniums proved to be the most important factor in the development of mankind. Philosophical questions lie back of it, and moral considerations give it strength; for it is an attempt at solving the problem of all problems, which is the riddle of the universe,—the question of the significance of life.

The answer to the world-problem is formulated in story-form, in the tidings of the life and death of Jesus. Hereto were added doctrines, practices, moral injunctions, sacraments, rituals, church institutions, and philosophies. Dogmas and interpretations of tra-

ditions were made by various men living at different times, and their divergencies caused considerable trouble, but led finally to the establishment of Churches with definite doctrines and regulated institutions.

We have treated several phases of this problem, tracing back the origin of the Nazaree sect to the Kenites of the age of Moses,[1] setting forth the significance of the pre-Christian Gnosticism,[2] explaining the meaning of the sacrament and its relation to primitive usages such as god-eating and partaking of the food of the tree of life,[3] analysing the Lord's Prayer,[4] and outlining the personality of Jesus of Nazareth, the prophet of the Nazaree, according to the Gospel reports in the light of modern criticism.[5] We have further discussed the nature of the symbol of Christianity, the cross, in a series of articles, endeavoring to show how the various pagan notions of the cross prepared for and determined the rise of the Christian cross.[6] Christianity was prepared for by Greek philosophy, mainly by that of Plato, by the Greek ethics of Socrates and others, and by the Greek religion, including its mythology and especially the belief in the sons of Zeus and in saviours from evil.[7] We now propose to show the preparation that Christianity received from the Greek Mysteries, which played a very prominent part in the religious life of classic antiquity.

* * *

We owe a great number of important religious terms and words of exquisite intensity to the Greek Mysteries, and some of them became prominent in Christian theology, while others have

---

[1] "Yahveh and Manitou," *The Monist*, Vol. IX., p. 382.

[2] "Gnosticism and its Relation to Christianity," *The Monist*, Vol. VIII., p. 502.

[3] "The Food of Life and the Sacrament," *The Monist*, Vol. X., p. 246.

[4] "The Lord's Prayer," *The Open Court*, Vol. XII., p. 491.

[5] "The Personality of Jesus and His Historical Relation to Christianity," *The Monist*, Vol. X., p. 573.

[6] See articles on the cross, *The Open Court*, Vol. XIII., pp. 149, 224, 296, 472, 673.

[7] "Greek Religion and Mythology," *The Open Court*, Vol. XIV., p. 513.

become household words even of these latter days. Such is the conservatism of language and the preservation of ideas!

The appearance in the mountains of the young god Dionysos, who was then sacrificed under the form of one of his sacred animals, as a fawn or as a bull, was called his *parusia* (παρουσία), i. e., the act of becoming present, and this same word is one of the most significant expressions of Christian terminology denoting the coming of the Saviour and the incarnation of the Logos.

In addition to the conception of God's *parusia* in corporeal form, we still speak of "ecstasy," of "enthusiasm," and of "manias,"—all words derived directly from the Orphic cult.

The word commonly used for "initiation" (τελετή, i. e., completion) does not occur in the New Testament, but St. Paul speaks frequently of the completion or realisation of the perfect man, using derivatives from the same root.

St. Paul says (Col. iii. 14): "Charity is the bond of our consecration (τελειότης)," i. e., the state of being initiated into the mysteries of the Christian religion. Christ is said to have taken the highest degree of initiation—τελειωθεὶς ἐγένετο (Hebr. v. 9) and it behooved him to be initiated (τελειῶσαι) through suffering (Hebr. ii. 10). Jesus is called (Hebr. xii. 2) the leader of initiation (τελειωτής), and to the Corinthians the Apostle proclaims that he teaches them as the initiated (τέλειοι) the wisdom of God in a mystery (1 Cor. ii. 6 ff.). The authorised version obliterates to a great extent the effect of the technical terms "initiated" and "mystery," but the sense is still there.

The word "mystery" is mentioned not only in the Epistles, but even in the Gospels (Matt. xiii. 11), and in Revelation (i. 20, xvii. 7). In the days when the New Testament was written, the term had no other meaning than that of the knowledge of a μύστης, i. e., of a person initiated into the rites of some deity, Demeter, Dionysos or Orpheus; the modern and more general sense of "secret" was developed after the Greek Mysteries fell into disuse, when the significance of the term was no longer understood. Among Gnostics and especially in the *Pistis Sophia*, one of the most interesting of Gnostic books, it is still used in the original sense, and here even

the idea itself is of greater prominence than in the New Testament canon.

The most celebrated Mystery-festival took place at Eleusis, which means the trysting or gathering place; and the same word is used in the New Testament to denote the advent of Christ, the coming of the just man, ἡ ἐλεύσις τοῦ δικαίου (Acts vii. 52).

The ethics of the Greek Mysteries are ascetic in tendency. Their devotees longed for untrammeled freedom and liberation from the bonds of necessity. They yearned for escape from this body of death, from the life of limitations, from the world of matter, and sought refuge in the realms of unbounded spiritual liberty. Pindar, one of the poets, who was strongly affected by Orphic traditions, sings (*Fragm.*, 131):

"The body is subject to death, the all-conqueror, but the soul remains alive. The soul sleeeps so long as the body is active; but when the body sleeps, the soul frequently reveals the future to the sleeper."

Orphic life (βίος Ὀρφικός) was ascetic, and its aim was purity of heart, having in view the liberation of the soul from the influence of the senses. But the liberty of the rites, which was analogous to the liberties taken in the carnival celebrations of modern times, easily served as a pretext for going to the extremes of licentiousness, by no means implied in the original libertinism of the Mysteries. We know of a *senatus consultum* in Rome forbidding excesses of this kind. The original document is still preserved on metal tablets and mentioned by Livy.

The religious views underlying the several mystic rites are the expression of beliefs which can be traced back to prehistoric ages and exhibit an obvious kinship with the Osiris myth, the Adonis legend, and the story of Tammuz. They describe in the form of a myth the death and resurrection of the god of vegetation, and suggest at the same time the doctrine of the immortality of the soul, which seems assured through the miraculous resurrection of the divine child of mother Earth,—Harpokrates, i. e., Hor the child, Tammuz, i. e., the son of life, Adonis, Persephone, Dionysos, etc. These ideas of the dying and resurrected god seem to have been superseded during the Homeric era, but kept smouldering under-

neath the ashes as folklore, and afterwards were strengthened by the importation of foreign elements. They asserted themselves again with the ascendency of the people's parties, especially the Ionian democracy at Athens.

The gods of the Mysteries, Dionysos and Orpheus, ushered in a new conception of religion. Nevertheless, they did not antagonise the old gods, but entered into an alliance with them; and when the entire mythology of Hellas melted before the rays of the rising sun of Christianity, the ideas that had prompted the institution of the Mysteries survived the deluge and reappeared in new forms, proclaiming in a new language the glory of the dying and resurrected god and the immortality of the human soul.

The Dionysos cult proclaimed the holiness of intoxication as an event symbolical of the liberation of the soul from the body, and thus the drinking of wine became a sacrament of mystic significance. The god enters and takes possession of his worshippers, who are thus assimilated to their god and become ἔνθεοι—*gottbesessen*, god-obsessed.

The rapture of intoxication is not considered a licence nor an act of frivolous indulgence; it denotes a soaring above the misery of the present life into the higher realms of heavenly bliss, and affords, according to the doctrine of the Mysteries, a foretaste of the glorious beyond, of the immortal life to come, which awaits the soul after death. What appears to outsiders as libertinism is therefore the same with that state which St. Paul calls "the glorious liberty of the children of God."

The Rev. W. M. Ramsay says in his article on the subject in the *Encyclopædia Britannica* (XVII., p. 123):

"The Mysteries occupied a place among the ancients analogous to that of the Holy Sacrament in the Christian church."

The Mysteries of Greece were not part of the official state religion. Says Mr. Ramsay (*loc. cit.*, p. 126):

"The public religion either became, like the Panathenaia, a purely political display of the power and splendor of Athens, or else, like much of the old ceremonial of the acropolis, was performed perfunctorily. It had no hold on the mind of the people; its simple antique ceremonies told nothing of the subjects which troubled

men's minds, the thoughts of sin, of a future life, and of punishment for guilt. But the Mysteries concerned themselves precisely with these subjects: they provided a series of preliminary purifications for their votaries; they turned men's minds to the deeper problems of life and death, and gave them new views; they made some attempt to reach and touch the individual mind. Thus, while the public Hellenic religion sank into disrepute, the Mysteries became more and more important as time elapsed."

Dealing with the main problems of the human heart, the Mysteries were more popular and not less venerable than the state religions of Greece. They were designed to be a comfort in the tribulations of life, and to make the initiated strong in the presence of death, holding out to them the promise of resuscitation and immortality.

The Orphic cult presumably made use of symbols similar to those of the Eleusinian Mysteries, but the latter adapted the crude ancient traditions to modern requirements and emphasised the moral influence to be exercised upon the initiated. The Orphic rites were lacking in this respect. Says Mr. Ramsay (*Enc. Brit.*, Vol. XVII., pp. 125, 126):

"Plato condemns in the strongest terms the Orphic Mysteries, which promise salvation in return for mere ritualistic acts of purification and initiation; if he respects the Eleusinian Mysteries, which also promise salvation as the reward of initiation, this can be only because he believes that they promise it on different grounds. The reason is explained by Isocrates, who expressly says that this salvation in the future life, the reward of the initiated, is gained by all who lead a pious and just life. In like manner, Diodorus says that the initiated are said to grow better; and Andocides makes a similar remark about the object of the Mysteries. According to Sopater, initiation establishes a kinship of the soul with the divine nature; and Theon Smyrnæus says that the final stage of initiation is the state of bliss and divine favor which results from it.

"The words of Pindar, Sophocles, Isocrates, agree with the words of the Homeric *Hymn* (I. 480) that the initiated have peculiar advantages in the future world, and many other passages are equally clear and distinct.

"One of the most important passages is that where Galen maintains that the study of nature, if prosecuted with the concentrated attention given to the Mysteries, is even more fitted than they are to reveal the power and wisdom of God, inasmuch as these truths are more obscurely expressed in the Mysteries than in nature.

"The testimony of the Christian writers is entirely to the same effect; while

stigmatising the impure character of some of the rites, they always admit that the Mysteries were intended to lead the people up to a knowledge of religious truth.

"The first and most important condition required of those who would enter the temple at Lindus is that they be pure in heart, and not conscious of any crime; conditions of ceremonial purity are enumerated as secondary matters.

"Now, with regard to the profanation of the Mysteries by those persons who ridiculed them, it is easy to understand that the very simple character of the rites, the commonplace nature of the sacred things which were exposed as the crowning ceremony of the Mysteries to the adoration of the people, lent themselves readily to ridicule when contrasted with the solemn preparations that led up to the crowning act, and the great effects that were expected from the initiation. The people who had been initiated, who believed in the salutary effect of the admission to handle and kiss the sacred objects, were naturally both shocked and indignant at the ridicule thus cast on their holy sacrament by the pitiless analysis of a cold disbelieving intellect. They felt that more than met the eye existed in these sacred things.

"Those who believed in the Mysteries kept in their hearts, as a saving and sacred possession, the knowledge of what they had seen and heard and kissed and handled; the thought was too holy to be rashly spoken of, even to the initiated. Numerous references prove that this mystic silence was generally very carefully observed."

The leading theme or *Leitmotiv* of the Mysteries of ancient Greece, the Eleusinian festivals, the orgies or Bacchanalia, the Orphic rites, and all others,[1] is the hope of immortality and the expectation of redemption from death.

In the Eleusinian Mysteries the myth of Persephone (the goddess of vegetation) was dramatically represented. Persephone, sometimes simply called Kora, i. e., the maiden, is the daughter of Demeter, the goddess of the earth. While playing in a meadow, she is abducted by Hades, the god of the Nether World. Demeter searches for her daughter with torches in her hand, and is at last informed of her fate by Helios, the all-seeing sun. The afflicted mother is in despair. She sits beside a well[2] and attracts the attention of Keleos, King of Eleusis, and Metaneira, his Queen, kind-hearted people, who received her into their house as a nurse of their child Demophon. She proposed to bestow the boon of im-

[1] We shall limit ourselves to three Mysteries, the Eleusinian, the Orphic, and the Bacchic, omitting those of the Corybants, of Aphrodite, etc.

[2] The stone on which she sat is called the Laughless Rock, Agelastos Petra.

mortality on the boy by plunging him every night into a bath of fire, and would have completed her task had not the frightened mother surprised her. Demeter thereupon made herself known as

THE RAPE OF PERSEPHONE.[1]
(Braun, *Antike Marmorwerke*, II., 4.)

RAPE OF PERSEPHONE.
Sarcophagus. (After *Ann. dell' Inst.*, 1873, pl. F. E., 1. Roscher, *Lexicon der gr. und röm. Mythologie*, II., p. 1375.)

a goddess and took her departure, but introduced the Eleusinian Mysteries and charged her nursling—in Attica called Triptolemos—

[1] Persephone is represented twice, unless we interpret the figure with the crown as a Hera, or an Artemis.

to teach mankind the blessings of agriculture.[1] In the meantime Zeus interceded for Demeter and requested his brother to release Persephone. Hades obeyed but gave her a pomegranate to eat (here representing the food of death or the apple of Eve), which made her forever a denizen of the world below, and thus a compromise was effected.

Now Persephone, the Queen of Hades, divides her time between the world of the living and the world of the dead. In winter vegetation lies dead, buried in the ground, but in spring the god-

TRIPTOLEMOS, THE PROTECTOR OF THE PLOW IN ATTICA, IS PRESENTED BY DEMETER WITH HER CAR DRAWN BY WINGED DRAGONS.
(Taylor, *Eleusinian and Bacchic Mysteries*, p. 128.)

dess is resurrected and fills mankind with new life and joy. This myth of the resurrection of Nature's life was interpreted as a symbol of man's immortality.

---

[1] Other versions call the kind-hearted couple Dysaules and Baubo. The king of Eleusis is sometimes called "Eleusis." In the story of the mixed drink, which will be mentioned further on, Baubo is replaced by Iambe in the Homeric hymn. Demophon and Triptolemos are sometimes distinguished, sometimes identified. After the introduction of Bacchic rites, the young Dionysos plays an important part under the name Iacchos and to some extent seems to take the place of Demophon-Triptolemos. The Homeric hymn refers to the death and resurrection of the "holy child Iacchos" (262–264).

The Eleusinian Mysteries consisted of two festivals. Louis Dyer defines their significance thus:[1]

"The Lesser Mysteries at Athens were a sort of preface to the greater ones of Eleusis, and the time of their celebration was earlier in the year. The Greater or

DEMETER, TRIPTOLEMOS, AND KORA.
Relief from Eleusis. (Cf. Roscher, *Lexicon der gr. und röm. Mythologie*, p. 1350.,

Epoptical Mysteries did not come until the month Boedromion (August-September) six months later than the flower-month (Anthesterion) of the Lesser Mysteries.

"The ordinary progress of initiation was as follows: — In the flower-month at

[1] *Studies of the Gods in Greece at Certain Sanctuaries Recently Excavated*, pp. 208 ff. London: Macmillan & Co. 1891.

Athens an applicant could become a mystes—a novice, let us say—by participation in the Lesser Mysteries at the Athenian Eleusinion. Thus, and apparently only thus, was a man qualified to take part, six months later, in the Greater Mysteries at Eleusis. But even then he appeared at Eleusis only as a mystes or novice, and could not join in all the acts of worship or see all the ceremonial. After a year had elapsed, however, our mystes became an epoptes, and as such saw with his own eyes and heard with his own ears all that the Greater or Epoptical Mysteries afforded. The religious privileges of the completely initiated are reached by two qualifying stages, as we should say, by baptism at the Lesser, and confirmation at the

Worshippers Kora Demeter

SACRIFICE OF A PIG TO DEMETER.

Initiation scene from the Eleusinian Mysteries.
Found in Eleusis, now in Paris. (After Panofka, *Cabinet Pourtalès*, pl. 18.)

Greater Mysteries. The vague and unprecise terms in which the full ceremony is described are terms of sight. The Epoptes or Viewer is said to have Autopsy, or sight with his own eyes — Real Vision. These hints, with others, such as the connection between showing light and the title of the leader of the mystic ceremonial, who was called Hierophant, persuade some that after a period of darkness the initiated saw a great light.

"All the mystae and every creature and thing that was to play a part in the great ceremonial underwent purgation by washing in the sea. Sea-surges dash all human

harms away, says Euripides somewhere, expressing a belief well-nigh universal in ancient Greece.

"The first two days of the Eleusinian-Athenian festival were spent in Athens

Kora

Demeter

Human sacrifice (abolished?).

ELEUSINIAN CEREMONIES.

From Etruscan vases. (After Taylor, *Eleusinian and Bacchic Mysteries*, p. 22.)

after these ceremonies of purgation. Solemn preparations were there and then completed for the great ceremonial procession from Athens to Eleusis along the Sacred Way and through the sacred gates into the precinct and its Great Hall of Initiation.

By means of all this pomp Dionysos-Iacchos was associated with Demeter and Persephone at Eleusis, and Dionysos became one of the gods at Eleusis, under the name of Jacchos, which was chanted by the mystae all through the day while they brought him to Eleusis, and again during the day spent in bringing him back to his home in

Heracles Mystagogue Triptolemos Dionysos
Aphrodite Eros Demeter Plutos Persephone Calligeneia

THE INITIATION OF HERACLES INTO THE ELEUSINIAN MYSTERIES AT AGRÆ.
On a pelike from Kertsch. (After Stephani, *Compte-rendu*, 1859, pl. II.)

the Athenian Iaccheion. Underlying all the light-heartedness shown by those who joined this procession was an incommunicable solemnity.

"No wonder then, if the yearly procession of the living mystae was often thought

Persephone Hades Heracles Hermes Cerberos

HERACLES IN THE UNDER WORLD.
Picture in black figures on an ancient cup. (After *Arch. Zeitg.*, 1859, plate 125. Roscher, *Lex.*, II., 1122.)

of as a foretaste of the life beyond, a dim vision of happiness to be hereafter in the islands of the blest, a rehearsal or promise in this world of the performance in the world to come.'

The Greater Mysteries lasted nine days. The first day was called ἀγυρμός, i. e., the day of gathering. The second day, which was the day of baptism, was known by the words ἅλαδε μύσται, i. e., Seawards ye who seek initiation! Then follows the day of fasting. The fourth day (κάλαθου κάθοδος) celebrates the rape of Persephone, which is typified by the abstraction of pomegranates and poppy-seeds in a basket (κάλαθος). Women with mystic cistes (κίσται μυστικαί) in their hands followed the waggon that carried the basket. The fifth day is the day of lamps, Demeter searching for her lost daughter. On the sixth day Iacchos made his appearance and the procession to Eleusis took place. It bears the name-day of Iacchos. The night which followed was the most sacred time of the whole festival. It was the scene of beholding. The mystæ or novices were admitted into the presence of the initiated or epoptæ. The seventh day was a day of rejoicing and merry-making; the eighth day was called Epidauria and was celebrated in commemoration of Asklepios of Epidauros, who, having arrived too late to take part in the celebration, had the benefit of a special initiation. In like manner Heracles was honored and made a participant of Eleusinian consecration. Not being in time for the chief feast, the Lesser Mysteries were instituted for his special benefit in consideration of his superior merits. The last day, the ninth, called the day of libations from earthen vessels (πλημοχόαι), concluded the ceremony. Pindar says:

"Blessed is he who has beheld the mysteries, descending into the Nether World. He knows the aim, he knows the origin of life."

The performance at Eleusis consisted of pantomimes, the singing of hymns,[1] and the exhibition of sacred symbols. Dirges are mentioned by Proclos,[2] commemorating the death of Demeter's daughter, and hymns of joy greet her on her return to life.[3] A beautiful voice was highly appreciated and regarded as an important requisite for the herald.[4]

---

[1] For instance in a funeral inscription, *Anthol. Pal.* App. 246.

[2] Plato, *Polit.*, p. 384. [3] *Schol. Theocr.*, II., 36.

[4] Philo, *Str. vit. Soph.*, II., 20.

There were four principal priests: (1) The hierophant (ἱεροφάντης), who was always taken from the family of the Eumolpides, a mystagogue, and, as it were, the god-father of the initiated; (2) The torch bearer, or daduchos (δαδοῦχος), commonly elected from a family who boast of descent from Triptolemos; (3) The

ELEUSINIAN DIVINITIES AND PRIESTS.

Water-vessel of Cumæ, now in the Eremitage of St. Petersburg.
(After *Compte-Rendu*, 1862, pl. III.)

ELEUSINIAN PRIEST AND ASSISTANTS.
(From Taylor's *Eleusinian and Bacchic Mysteries*, p. 247.)

holy herald (ἱεροκῆρυξ), who represented the god Hermes, and whose office was to command silence in the congregation; and finally (4) The priest of the altar (ἱερεὺς ὁ ἐπὶ βωμῷ), whose office consisted in offering the sacrifice.

The initiated take an active part in the whole performance. They abstain from food in the same way as did Demeter. They search for the dead with the goddess; they mourn with her in her bereavement. They see the same salvation-promising symbols; drink the same immortality-spending drink; handle and kiss the sacred objects; and their beholding is thus an actual partaking of

Hermes. Eurydice. Orpheus.

ORPHEUS AND EURYDICE.

Marble relief in Naples. The same subject treated in the same style is preserved in the Villa Albani and in the Louvre. Cf. Zoega, *Bassiril.*, I., 42.

the fate of the goddess, in which way they gain the same ends and become assured of a blissful life after death for their own souls.

The procession of the Eleusinian Mysteries was brought on

the stage by Aristophanes in his comedy *The Frogs* where we find many interesting details.

The Homeric *Hymn to Demeter* which is still extant is full of allusions to the Eleusinian ritual and gives us a fair idea of the

ORPHEUS PLAYING THE LYRE.[1]
(*Mon. Inst.*, VIII., 43, 1. Cf. Dilthey, *Annal Inst.*, 1867, p. 172 ff.)

ORPHEUS SLAIN BY THE WOMEN OF THRACE.
(Gerhard, *Trinksch. u. Gefässe*, pl. J.)

depth of sentiment and philosophical comprehension which pervades the religious faith of the Mysteries.

[1] Women behind the seat of Orpheus are enchanted with his music, so is the deer on the ground at his side. Thracian youths try to induce him to join in their

Barring the Eleusinian festivals, the Orphic rites were the most prominent of the several Mysteries. Orpheus, the inventor of the lyre, was a famous poet and singer, who could soothe the wild

RAVING MÆNADS.

Relief in colored clay, after Skopas. (Campana, *op. plast.*, plate 47. Baumeister, *Denkmäler des kl. Alterthums*, plate XVIII., p. 848.)

beasts of the wilderness and make the stones move to music. When his wife, Eurydice, died, he went down to Hades and through the

---

games; but he is lost in his art and thinks only of Eurydice. Ovid's *Metam.*, X., 73 ff.; Virgil's *Georg.*, IV., 515.

power of his song obtained her release, on the condition that in returning he would not look back. The legend tells us that Orpheus could not restrain himself, and disobeying the command of Hades, turned round to embrace the shadow of his wife who was following him. As he glanced at her, she disappeared from his sight forever. Having returned to Thrace, his native country, Orpheus is said to have been torn to pieces by the women there, who were jealous of his incurable love for his wife.

Such is the myth as we know it from tradition, which by no means excludes the fact that the legend of the Orphic Mysteries was quite different. That Orpheus was slain is established by vase-pictures, but it seems doubtful to say that he did not succeed in releasing Eurydice from the domain of death; for the monuments

Faun and Bacchante Thyrsus-bearer Bacchante and Faun

FRESCOES OF HERCULANEUM.
(From Taylor, p. 206.)

depicting the legend always represent the happy restoration of the poet's lost wife, and there is no indication of a renewed separation, which, if it were an essential part of the myth, would certainly have been intimated in some way by the artist.

The myth reflects vestiges of a most ancient religious rite, which finds a parallel in the annual slaughter of incarnated gods, which was still celebrated by the Mexicans in the shape of human sacrifices at the time of the discovery of America.

The Orpheus myth is closely related to the Dionysian or Bacchic orgies which were celebrated by the women of ancient Greece in remote mountain wildernesses. With loose garments and hair disheveled, swinging the thyrsus and beating the cymbal, they

danced by the light of torches and tore a living bull to pieces with their teeth. The bull represented the god Dionysos Zagreus, and his bellowing marked the suffering of the dying god. The eating of the raw flesh of the slain deity was an essential part of the ceremony and constituted the climax of the holy rite. But though the god must die, he remains immortal and reappears as a new-born child. On Mount Parnassus the women carried back a baby, representing Dionysos Liknites, the god-child, in a winnowing-fan.

INITIATION INTO THE BACCHIC MYSTERIES.[1]
(Antique relief in clay after Campana, *opere in plast.*, 45.)

The winnowing-fan (λίκνον, or λικμός, or πτύον), is a shallow basket, commonly made of plaited straw or wicker. It was also used for measuring corn[2] for horses and cattle, and thus bears some likeness to the manger of the Christian nativity legends.

[1] A priestess leads the applicant whose head is veiled, and a man dressed as a satyr exhibits a basket full of fruit and the symbol of reproduction.

[2] The πτίνον, as we know from Hesychius, was used on the island of Cyprus as a corn measure, hence δίπτινον or double measure, being one half a μέδιμνος.

Greek poets use the word λίκνον directly for cradle,[1] and Christian artists sometimes represent the infant Jesus as lying in a basket that resembles the winnowing-fan. The bearer of the winnowing-fan in the Bacchic procession was called liknophoros.[2] That John the Baptist described Christ as holding in his hands a winnowing-

SYMBOLS AND IMPLEMENTS OF DIONYSIAN MYSTERIES.[3]
Antique onyx vessel, now in Paris.

fan (πτύον) is an interesting coincidence, but presumably purely accidental.

Dionysos is the son of Semele and Zeus, but before his birth Semele requested her lover, whose truthfulness she had been led

[1] H. Hom. Merc. 21, 150. al. Call. Jov. 48, Árat. etc.

[2] *Dem.* 313, 28. *Call. Cer.* 126.

[3] An abacus (or sacred table) stands (after Clarac, *Musée*, pl. 125 and 127) in a grave under a canopy, not unlike the baldachin in Roman Catholic churches that

to doubt through the insinuations of the jealous Hera, to show himself to her in his real divinity. Zeus warned her, but she insisted, and as he had promised to fulfil her wish with an oath by Styx, he appeared with thunder and lightning, causing the instantaneous death of Semele. Zeus, however, saved the child and transferred it to his thigh, where it was matured soon to be born a second time. The baby Dionysos was then handed over through Hermes to the Nymphs of Nysa who cared for him until he grew to manhood.

Dionysos is a god of catholic tendencies. He enters into alliances wherever his worship is introduced. His friendship with Apollo is the subject of artistic representation, and though his relation to Demeter is not well defined, his orgies were combined with the Mysteries of Eleusis, an event of great importance in the religious development of Athens.

The mathematician Theon of Smyrna (I., 18) enumerates five stages of the Dionysian mystic rites: (1) Purification (*κάθαρσις*), which is done by baptism in the sea; (2) Instruction concerning the significance of the Mysteries (*τῆς τελετῆς παράδοσις*); (3) The scene of beholding (*ἐποπτεία*); (4) Completion of the scene of beholding by actual initiation, endowment with the ribbon and imposition of the wreath (*τέλος τῆς ἐποπτείας, ἀνάδεσις καὶ στεμμάτων ἐπίθεσις*); and, resulting from the ceremony, (5) A condition of bliss (*εὐδαιμονία*).

Dionysos is a god of comparatively recent date. He is not a member of Homer's Olympian dynasty. He is mentioned twice in the *Odyssey* (λ 325, ω 74) and once in the *Iliad* (Ξ 325), in passages which may be regarded as later additions. He is an alien in the aristocracy of the Greek gods, and appears first among the peasantry of Thracian extraction in Bœotia. Hesiod (*Th.*, 940) calls him and his mother gods of recent divinity.[1]

---

is suspended over the altar. Cymbals, musical instruments, and also masks are hanging in the trees; the latter ones are perhaps reminiscences of prehistoric human sacrifices. On the table are the cist, drinking cups, and other sacred vessels as well as a figure of the god pouring out a libation.

[1] *νῦν δ' ἀμφότεροι θεοί εἰσιν*, i. e., but now they are both gods.

Dionysos was first worshipped among the farmers and was a god of the democracy. According to Plutarch his worship among

THE FRIENDSHIP BETWEEN APOLLO AND BACCHUS.
The two gods surrounded by satyrs and mænads meet under a palm tree.

the country folks was a rural merry-making. Plutarch says (*Cupid. divit.*, p. 527 c):

"The aboriginal feast of the Dionysia was celebrated formerly in a rural and jolly fashion. After an Amphora of wine and evergreen, there is one leading a

goat, then another with a basket of figs, and lastly a phallus. But now all this has disappeared. Golden vessels and precious garments are carried about; people drive in carriages and use masks."

With the rise of democracy the religious cult of Dionysos grew in significance.[1] Hence the connexion which according to tradition obtained between Theseus and Bacchus. Epimenides introduced Cretan conceptions into the Dionysian Mysteries, and Peisistratos, the tyrant who built his rule upon his popularity with the common people, added much pomp and art to the public festivals of the

INITIATION SCENE OF THE BACCHIC MYSTERIES.[2]
(*Mus. Borb.*, V., 23.)

popular god. From this time on the cult of Dionysos took an ever-increasing hold on the minds of the Greek people. He became more and more idealised and was henceforth celebrated as saviour

[1] O. Ribbeck, *Anfänge und Entwickelung des Dionysos Kultus in Attika*, Kiel, 1869.

[2] The applicant is seated on a throne covered with the fleece of a ram. His head is veiled; a priestess behind him lowers two torches; the priest, dressed in Bacchic fashion with long hair arranged in womanish style, carries the basket with the Bacchic symbols and pours oil into the fire on the altar.

and liberator. He continued to retain his original jollity and boisterous buoyancy. In the fields he was represented by a mere trunk dressed in a long garment and covered with a mask, but being the suffering god, the twice-born, slain by Titans, and resurrected as a child, he acquired a tragic meaning and a profound philosophical significance, which finds expression in many excellent Dionysos statues still extant. The face of the god shows a divine enthusiasm, combined with insatiable longing. He is filled with a definite joy of his destiny, but at the same time with an indefinite yearning for higher and better pleasures. It is the happiness of a divine intoxication and the restlessness of a lover's longing for his leman far away.

It was under the influence of the Dionysos cult that the Greek

BACCHIC LIFE.

tragedy developed from crude vintage jests to the grand *dénouement* of the Athenian trilogies of Æschylos, Sophocles, and Euripides.

The silence that was preserved as to the ceremonies and sacred symbols, constituted a halo which added considerably to the awe that surrounded the Mysteries, but it has served at the same time to obscure our sources of information, which are consequently very meager. There is a good deal of Orphic literature left, hymns and rhapsodies, legends and holy sayings (ἱεροὶ λόγοι), sentences and poems, but they offer distorted reflexions of the true meaning of the Orphic faith, and contain many extravagant notions, such as belief in the magic power of stones and herbs, which are foreign to the Mysteries themselves. Prof. Karl Seidenadel in the preface to

his German translations of Orphic poetry characterises them in these words:

"When the Homeric world of gods had lost its hold upon the people who had awakened to active political life and to thought, the symbolic rites of mysteries sprang up. And when afterwards the practice of the heathen religion and especially of the oracles had vanished, a new kind of Orphic mystery and prophecy formed itself amidst the Neoplatonism, as a last attempt to prolong the life of vanished heathendom: the theurgy, the theurgic 'teletai.' They taught how to conjure the gods, to appear and to reveal the future by bloodless sacrifices and prayers, lustration, and magic rites, especially by the application of herbs (e. g., Orpheus Argon, 953–985) and also of stones (Orph. Lithica, 360–381, 693–741). The literature produced in the service or in the spirit of this theurgy contains the 88 Orph. hymns, a collection of prayers (to the gods on high and beneath and to the natural powers), the 'Argonautica' and the 'Lithica.'

"In the old science of medicine we find in many instances the strongest superstition concerning plants, amulets, and stones as remedies for diseases (cf. Pliny, *Nat. History*, Book 36 and 37) and as such remedies, evidently taken from medical works, the stones appear in our poem (i. e., the 'Lithica'); new, however, is their specific application for the theurgical aims of the poem.

"The poem, with its fantastic, extravagant fiction, possesses neither a deep symbolic aim,[1] nor can it arouse any scientific interest. Its value is rather one for the history of the development of civilisation: the 'Lithica' prove perhaps better than any other literary product of those days how heathendom had become weakened and was on the verge of dissolution."

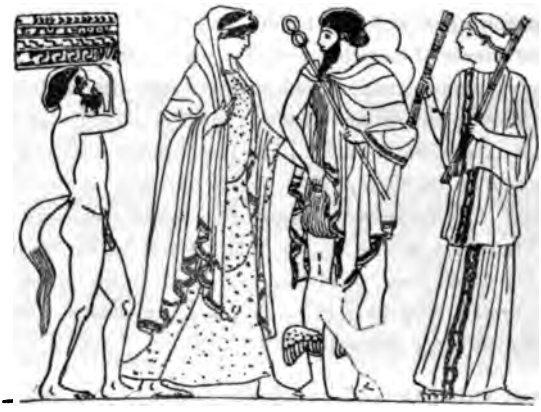
The most valuable and complete collection of the materials on the subject has been made by Lobeck in his learned book *Aglaophamus sive de Theologiæ Mysticæ Graecorum Causis libri tres.* The first book treats of the Eleusinian Mysteries, the second of Orphica, and the third of fragments which are uncertain. The book would probably have been more useful and found more readers if the author had dared to write it in his native tongue or in any other modern language.[2]

---

[1] We remember, for instance, the clever use of the Opal in the tale of the Ring in Lessing's *Nathan der Weise.*

[2] The main point of Lobeck's work consists in the refutation of an antiquated theory which assumes that the Mysteries were based upon a primitive revelation of God to mankind. While his contention is right, he was mistaken in several minor points, but his work remains up to date the most complete collection of all the classical passages which have reference to the Mysteries. More, and indeed im-

The Eleusinian Mysteries were originally the harvest festival of Demeter; but in this institution, developed in the course of time, new ideas were assimilated and the philosophies of foreign faiths appropriated. Orphic as well as Bacchic rites were adopted by the priests, and the main deities of the Eleusinian legend were identified, through the influence of Orphic priests, perhaps through the Orphic poet Onomacritos (a contemporary of Peisistratos and his son Hippias), with the gods of the Orphic cult. This could easily be done, partly on account of the similarity of the myths, which perhaps sprang from the same root, and partly for the reason that the Eleusinian Mysteries taught the mystic unity of all



KORA'S RETURN TO THE UPPER WORLD. (See p. 96.)

(Vase-picture of Bologna, *Museo Italiano* 2, pl. I., fig. 1. Roscher, *Lexicon der gr. und röm. Mythologie*, II., p. 1378.)

The first figure to the left is a satyr carrying a chest; the second figure is Kora, the third Hermes Psychopompos, the fourth Hecate.

gods. The child Iacchos, whose death and resurrection were represented at Eleusis, became now either Zagreus, the son of Zeus and Persephone of the Orphic cult, slain by the Titans and resuscitated by Dionysos,[1] or Dionysos himself as the childgod, the baby at the breast of his mother,—Διόνυσος ἐπὶ τῷ μαστῷ.

---

portant, material has been discovered since Lobeck's time in ancient monuments and inscriptions.

[1] Call. Fr., 171. Nonn. D., 10, 294.

The general tendency of Orphic poetry was cosmopolitan and even monotheistic. All the gods were conceived as manifestations of Zeus, the One and All. Cleanthes in his hymn addresses Zeus in these words :[1]

"Greatest of the gods, god with many names,
God ever-ruling, and ruling all things !
Zeus, origin of Nature, governing the universe by law,
All hail ! For it is right for mortals to address thee ;
For we are thy offspring,[2] and we alone of all
That live and creep on earth have the power of imitative speech.
Therefore will I praise thee, and hymn forever thy power.

"Thee the wide heaven, which surrounds the earth, obeys :
Following where thou wilt, willingly obeying thy law.
Thou holdest at thy service, in thy mighty hands,
The two-edged, flaming, immortal thunderbolt,
Before whose flash all nature trembles.

"Thou rulest in the common reason, which goes through all,
And appears mingled in all things, great or small,
Which filling all nature, is king of all existences.
Nor without thee, Oh Deity,[3] does anything happen in the world,
From the divine ethereal pole to the great ocean,
Except only the evil preferred by the senseless wicked.
But thou also art able to bring to order that which is chaotic,
Giving form to what is formless, and making the discordant friendly ;
So reducing all variety to unity, and even making good out of evil.

"Thus throughout nature is one great law
Which only the wicked seek to disobey,
Poor fools ! who long for happiness,
But will not see nor hear the divine commands.
[In frenzy blind they stray away from good,
By thirst of glory tempted, or sordid avarice,
Or pleasures sensual and joys that fall.]
But do thou, Oh Zeus, all-bestower, cloud-compeller !
Ruler of thunder ! guard men from sad error.

---

[1] After Rev. J. Freeman Clarke's translation, quoted from Thomas Taylor's *Eleusinian and Bacchic Mysteries*, pp. 239-240.

[2] St. Paul's quotation of this idea will be remembered in this connexion.

[3] Greek, Δαίμων, *Demon*, i. e., spiritual presence.

"Father! dispel the clouds of the soul, and let us follow
The laws of thy great and just reign!
That we may be honored, let us honor thee again,
Chanting thy great deeds, as is proper for mortals,
For nothing can be better for gods or men
Than to adore with hymns the Universal Law."

The same spirit breathes through the lines of other Orphic hymns, of which the following deserves quoting:[1]

"I shall utter to whom it is lawful; but let the doors be closed,
Nevertheless, against all the profane. But do thou hear,
Oh Musæus, for I will declare what is true. . . .

"He is the One, self-proceeding; and from him all things proceed,
And in them he himself exerts his activity; no mortal
Beholds Him, but he beholds all.

"There is one royal body in which all things are enwombed,
Fire and Water, Earth, Æther, Night and Day,
And Counsel [*Metis*], the first producer, and delightful Love,—
For all these are contained in the great body of Zeus.

"Zeus, the mighty thunderer, is first; Zeus is last;
Zeus is the head, Zeus the middle of all things;
From Zeus were all things produced. He is male, he is female;
Zeus is the depth of the earth, the height of the starry heavens;

"He is the breath of all things, the force of untamed fire;
The bottom of the sea; Sun, Moon, and Stars;
Origin of all; King of all;
One Power, one God, one Great Ruler."

There are a number of incidents reported about the Mysteries which deserve special notice.

At the marriage of Persephone the initiated sing:

"Out of the tympanon I have eaten,
Out of the cymbal I have drunk;
The sacred dish (κέρνος) I have carried,
And the bridal chamber (παστόν) I have entered."[2]

---

[1] *Loc cit.*, pp. 238–239.

[2] Quoted by Clement Alex. *Exh.* II. and Psellus, the latter quoted by Thomas Taylor in his book on the *Eleusinian and Bacchic Mysteries*, p. 230.

Having partaken of the ceremony and having seen the symbols of the mystery, the initiated declare:

"I have fasted; I have drunk the mixed drink (κυκεών);

"I have taken from the chest (κίστη) and after handling deposited in the basket (κάλαθος) and from the basket into the chest."[1]

That these symbols in the chest were made of gold is stated by the poet Callimachus in his hymn to Ceres. Mr. Alexander Wilder, the editor of Thomas Taylor's *Bacchic Mysteries*, states in a footnote on p. 179 that a golden serpent, an egg, and a phallus were the contents of the chest.

Apuleius, the author of the story of Eros and Psyche, describes his initiation into the Mysteries in these words:

"I approached the confines of death, and having trodden on the threshold of Proserpina, I returned, having been carried through all the elements."

COINS WITH THE MYSTIC CIST AND SERPENTS EMERGING FROM IT.
(*Abhandl. der Berl. Akad.*, 1855, pl. I., 1.)

He makes Psyche pass through the same ordeal and tells us that she addressed the following prayer to Demeter:

"I beseech thee, by thy fruit-bearing right hand, by the joyful ceremonies of harvest, by the occult sacred rites of thy cistæ, and by the winged car of thy attending dragons, and the furrows of the Sicilian soil, and the rapacious chariot (or car of the ravisher), and the dark descending ceremonies attending the marriage of Proserpina, and the ascending rites which accompanied the lighted return of thy daughter, and by other arcana which Eleusis the Attic sanctuary conceals in profound silence, relieve the sorrows of thy wretched suppliant Psyche."

The Mysteries are intended to purify the soul, and those who remain unpurified work out their own condemnation like those who partake unworthily of the Lord's Supper. Says Plato (*Phædo*, 38):

---

[1] Quoted by Clement of Alexandria in his *Exhortation to the Heathen*, II. Ante Nic. Lib., Cl. A., Vol. I., p. 32.

"Those who instituted the Mysteries for us appear to have intimated that whoever shall arrive in Hades unpurified and not initiated shall lie in mud; but he who arrives there purified and initiated shall dwell with the gods. For there are many bearers of the wand (thyrsus), but few who are inspired."

Prof. Louis Dyer mentions in a footnote on page 181, added to his interesting article on the gods of Eleusis, several important facts which will throw much light on the subject:

"The scholiast on line 158 of the *Frogs* of Aristophanes says: 'The opinion prevailed at Athens that whoever had been taught the Mysteries would, when he came to die, be deemed worthy of divine glory. Hence all were eager for initiation.' This would sometimes take place when a man was near his death. See Aristoph. *Peace*, v. 374 f., where *Trygaeus*, sure of approaching death, tries to borrow three drachmas to buy a bit of a porker (for an offering to the gods below), and says 'You know I've got to be initiated ere I die.'

"A curious ray of light is thrown upon the whole question of the Mysteries, and the comfort which they gave by assuring to the initiated especial privileges in the life beyond, by four Orphic fragments found in Southern Italy (three at Sybaris and one at Petelia). The date of the tombs wherein they were found on thin plates of gold is the third century B. C; but Comparetti, in his account of them (*Journal of Hellenic Studies*, vol. iii. p. 112), says the Orphic fragments go back to the time of Euripides, and he refers to the well-known passage in Plato's *Republic* about the *Orpheotelestae* (ii. 364 B).

"Mr. Cecil Smith, 'Orphic Myths on Attic Vases' (*Journal of Hellenic Studies*, vol. xi. p. 346), gives the following summary of doctrine (derived from the three inscriptions in question) from later Orphic poems, and from a vase-painting of great and almost unique interest that goes back to a date earlier than 480 B. C.:

"'In the cosmogony of the Orphic teaching there are two great cosmic elements —Zeus, the omnipotent all in all, and his daughter Kore, who combines in her personality the characteristic features of Persephone, Artemis, and Hekate; from the union of Zeus in serpent form with Kore, Zagreus is born, and to him, essentially in his character of χθόνιος, the kingdom is given of this world. Zagreus is the allegory of the life and death and resurrection of Nature. In the generally accepted version, he is brought up as the Zeus-child, and from fear of Hera, is sent on earth to be warded by the Kouretes. Hera sends the Titans, who surprise Zagreus at play, tear him in pieces, and eat him all except the heart. Zeus destroys the Titans with his thunderbolts, and out of their ashes the human race is born. Since the Titans have swallowed Zagreus, a spark of the divine element forever permeates the human system. The heart is carried by Athene to Zeus, who either gives it to Semele in a potion or swallows it himself, and thus is born another Zagreus, the "younger Dionysus," ὁ νέος Διόννσος.' For the initiated death is a piece of good luck, and on one of the Sybaris tablets the departed soul exults, saying to the gods: καὶ γὰρ ἐγὼν ὑμῶν

γένος ὅλβιον εὔχομαι εἶναι. Having atoned for the sin of the Titans by mystic ceremonies, the initiated claim the heritage of Zagreus, which is life everlasting. He is in their members, and through his death their immortality has been won."

Considering the fact that the Mysteries are an embodiment of hoary traditions, it is but natural that the symbols of resuscitation were phallic. What struck primitive man most, was the miracle of reproduction, and he regarded with special awe and wonder the sexual organs which could perform the mystery of creation. Hence phallic symbolism enters into every religion at a certain phase of its development, and is only removed when licentiousness renders it offensive to pure minds.

It is not impossible that the original significance of the symbols displayed at the Mysteries was no longer understood in Eleusis. We are told, for instance, that Demeter was in utter despair about the death of her daughter and would not be comforted, refusing to take the drink offered her for refreshment. Then Baubo,[1] her hostess, who took pity on her, having tried all possible means to console her guest, at last denuded herself and thereby caused the goddess to laugh. Now at last Demeter could be prevailed upon to take the refreshing drink, which gave her new strength to bear up in her tribulations and recover her lost child. Must we not assume that the exposure was more than a mere joke designed to make Demeter laugh,—a joke which would have been coarse even among savages; and must we not recognise in the act a comforting revelation, which assures the bereaved mother of the preservation and restoration of life, which is foreshadowed, as it were, in sexual reproduction and should be taken as a promise of the immortality of the soul? We have not the slightest doubt that such was the original meaning of the myth and perhaps also of the Eleusinian Mysteries.

In the primitive stage of civilisation the sexual organs represented the idea of immortality, reincarnation, restoration to life, retribution in the future, etc., etc., among all the nations of the

[1] According to the Homeric hymn *Iambe* the maid-servant of Metaneira.

world, the Israelites not excepted; and this is the significance of the Hebrew custom, that a person giving an oath binding beyond the grave, should place his hand under the thigh יָרֵךְ of the other person to whom the promise was made.[1] The same word יָרֵךְ is used to denote in a man the organ whence his offspring proceeds.[2]

Primitive man looked upon the wonders of generation with awe, and the sexual organs were to him both miraculous and sacred. They implied the secrets of fatherhood and motherhood and were far removed from thoughts of licentiousness. The original significance of phallic symbols must be regarded in the light of the interpretation of customs of their age and not from the standpoint of a more advanced civilisation; otherwise we shall misunderstand their meaning, as is done by Clement of Alexandria, who, forgetful of the many reminiscences of phallic customs in the Old Testament, sees nothing but obscenity in the mysteries of the pagans. He says in his *Exhortation to the Heathens*, chapt. II.:[3]

"What are these mystic chests?—for I must expose their sacred things, and divulge things not fit for speech. Are they not sesame cakes, and pyramidal cakes, and globular and flat cakes, embossed all over, and lumps of salt and a serpent the symbol of Dionysus Bassareus? And besides these, are there not pomegranates, and branches, and rods, and ivy leaves? and besides, round cakes and poppy seeds? And further, there are the unmentionable symbols of Themis, marjoram, a lamp, a sword, a woman's comb, which is a euphemism and mystic expression for a woman's secret parts."

Ceremonies which imply the use of phallic symbols always suggest the idea of an allusion to the renewal of life or immortality, and this was most probably the sense which it served in the Mysteries of Eleusis.

Our reports are incomplete and may be perverted, but we may expect that some phallic notions survived in the Mysteries; when we read, for instance, that Zeus expiated his transgression against Demeter for having become the father of Persephone by offering

---

[1] Gen. xxiv. 2, 9; xlvii. 29.

[2] Gen. xlvi. 26. Exod. i. 5. Judges viii. 30.

[3] The whole chapter is worth careful perusal.

her the testicles of a goat in place of his own manhood.[1] The original meaning is apparently lost, and we only learn that phallic symbols were in some way used in the ritual.

Primitive man embodied in rites his philosophy of the creative power of nature's god and the fertilisation of the earth. In ancient times the letter of the myth dominated the spirit of its significance. The myth was enacted in connexion with the bloody ceremonies of human sacrifices, sometimes combined with cannibalism; then the cruelty of the rite was softened; a goat was substituted for a man; finally it was abandoned and enacted merely in allegorical rituals which were moralised about by reformers and philosophers.

But even the philosophical conception of ancient symbols cannot insure their continuance, when with the change of conditions the general world-conception changes. They become antiquated beyond redemption, and no interpretation, be it ever so ingenious and philosophical, will save them. Thus it became necessary that a new religion should replace them. But when Christianity came and swept the offensive symbols out of sight, the underlying ideas of death and resurrection survived and reappeared in a nobler form. Such is the natural course of evolution, as might be expected.

So long as Christianity still had to struggle for existence, the early Christians recognised the kinship of their own religion with the underlying dualism of the Greek Mysteries; they even allowed their own views to be influenced by Orphic traditions; but when Christianity had become firmly established, it naturally repudiated its former ally, denouncing it as paganism, and in later centuries the figure of Christ as Orpheus disappeared from the symbolism of Christian art.

The Church Father, Clement of Alexandria, who wrote at a time when "the oracles had gone to decay" and "the springs of divination were dead and stripped of their glory," curses the inventors of the Mysteries, saying: "Perish, then the man who was the

---

[1] The report of Psellus (quoted in full by Taylor, *loc. cit.*, p. 231) mentions the same object among the symbols of the mysteries, speaking also of the throes of Demeter, the drinking of bile, and her heartaches.

author of their imposture among men" . . . and predicts for them and their followers "a fate they hope not for, that awaits them after death." (*Ante-Nicene Chr. Libr.*, Vol. IV. *Cl. Al.*, Vol. I., p. 32.)

Clement of Alexandria condemns the pagans for "having invented saviours in the persons of the Dioscuri, Heracles the averter of evil, and Asklepios the healer." He enumerates a number of mysteries which treat of the death and resurrection of a god, telling us, for instance, that "the Corybantes, having killed their third brother, covered the head of the dead body with a purple cloth, crowned it, and carrying it on the point of a spear, buried it under the base of Olympus."[1] He adds with indignation, "These Mysteries are in short murders and funerals!" without becoming conscious of the similarity which they bear to the story of the Messiah clad in purple and crowned with thorns, who drank bile, was slain, was buried, and resurrected.

Christ like Dionysos is born in a cave,[2] he is tortured, slain, and resurrected. He compares himself to the vine. The wine is his sacred symbol, and by drinking it his followers partake of his spirit. Further, Dionysos comes in a triumphal procession seated on an ass. With shouts of joy he is saluted as king, as liberator, and saviour. How similar is the story of Christ's entry into Jerusalem! The bull and the ass are sacred to Dionysos, and we find the same animals pictured on the oldest nativity illustrations of Christ. Other analogies will be found in the drinking of gall and the mixed drink which Christ refuses to take, before descending into the infernal regions. Then there is the ceremony of baptism, the use of holy bread or sacrificial cakes, etc., and above all the idea of the divine sonship and the proclamation of the coming of a kingdom of the soul, which at present can be realised by mortals in visions only, in dreams and ecstacies.

---

[1] *Ante-Nicene Chr. L. Cl. of A.*, I., p. 30.

[2] The canonical Gospels speak of a stable, while the apocrypha and the local tradition of Bethlehem insist on the place of Christ's nativity being a cave. We need not add that Mithras and other saviours, too, were born in caves, or, like Krishna, in concealment.

The appearance of Christianity was prepared for in many ways. The religious fermentation which was caused through the fusion of the nations from the time of the conquest of Asia by Alexander the Great, propounded the problems of Gnosticism, regarding the spirituality of the soul, its immortality, the oneness of God, etc., all of which are pre-Christian. Plato set up the ideal of the perfectly just man who would rather be than seem good, even though he was tortured, blinded, suffered the utmost disgrace and was crucified. This sounds like a prophecy, and in a certain sense it is a prophecy; it is a foretelling; but it is more than a prophecy; it is a foredetermining. Plato prepared the way for Christianity by setting before the world the ideal of the Crucified, the sufferer for righteousness's sake; and in the same sense the Greek Mysteries are prophecies as well as preparations. They proposed problems and offered a solution in ritual performances. Christianity is a fulfilment, a pleroma, of the yearnings that prompted the problems, a fulfilment which was satisfactory to the Greek people after the breaking down of their national religion.

EDITOR.

LITERARY CORRESPONDENCE.

FRANCE.

MANY important questions are discussed by M. A. FOUILLÉE in his recent work, *La France au point de vue moral*, which forms the natural sequel of his *Psychologie du peuple français* and at the same time constitutes an introduction to a new work announced under the title, *Le progrès social et politique en France*. The French character from the moral and religious point of view, public opinion and the press, crime and young criminals, the education of democracy and the education of the so-called secondary schools,—such are the subjects treated in the present volume. The question of education has the greatest place. While the pages which are devoted to it appeal more particularly to French readers, the sections in which the author analyses the religious crisis in France will be read with eager curiosity in America. M. Fouillée furthermore is one of those writers whose companionship is always profitable. Criticism in the present case would be superfluous; his work does not demand a *résumé*; its chief value lies in its wealth of details and its intelligent interpretation of the facts.

* * *

M. PAUL SOLLIER in his *Le Problème de la mémoire* has made a new study of this important phenomenon. He sees in the problem of memory, as in that of the soul generally, a physical and mechanical problem solely, and derives from this conception the plausible hypothesis which he propounds. I am unable to follow him in his rich and varied demonstrations, but to epitomise his views,—and this statement will give their substance pretty exactly,—it would

seem that we are obliged to abandon the doctrine of "partial memories," in so far as the same implies the existence of distinct centers where the auditory, visual, verbal, and other images are conserved and reproduced; but that memory nevertheless presents individual characters according to the quality of the predominating images. The centers of perception are not on this theory the centers of memory (the frontal lobe, or the centers of association connected with this lobe, according to the teaching of Flechsig, Pitres, and Bianchi). Every peripheral excitation determines a molecular change and a special dynamic condition of the cerebral cells,—a condition, the "potential" of which, as it is termed in analogy with physics, is in corresponding relation with the nervous current which has produced it, and which, the moment it is reproduced, awakens anew the memory of the excitation. There are accordingly combinations between the cells of the cortex,—and these combinations may vary infinitely; but there is no conservation directly in the centers of reception, the number of which is necessarily limited. The function of memory, in fine, has its seat in the frontal lobes.

M. Sollier, be it noted in passing, gives a complete analysis of this function. He clearly distinguishes in the three great operations of memory the following six stages: the *fixation* and the *conservation* of the image; its *evoking* and *reproduction*; its *recognition* properly so called (transferral to the past); and its *localisation* in the past (between two contiguous images). Whatever judgment psychologists may pass upon his work, they cannot fail to recognise its great importance and the solidity of its foundation in the facts of anatomy and pathology.

* * *

From M. Le Dantec we have a book entitled *Lamarckiens et Darwiniens: Discussion de quelques théories sur la formation des espèces.* The principal questions reviewed by M. Le Dantec relate to the problem of the formation of the species, the heredity of acquired characters, and to mimicry. He expounds, conformably to the theory which he has himself created, the conditions which make up the life of animate beings, and endeavors to deduce from their elementary or bio-chemical properties the fundamental principles

which Darwin and Lamarck—two men of genius whom it is futile to put in opposition—have drawn from the observation of higher creatures. According to him, natural selection—and selection is here conceived as taking place first between the elements of the tissues and afterwards between the higher animals—alone explains the progressive evolution of organisms. In fine, we have here a new and decisive critique of the system of Weismann considered as the last expression of the old theory of the encasement of germs.

M. Le Dantec, as our readers know, boldly reduces the phenomena of life to the laws of physics and chemistry. "Is there a molecular structure capable of permitting assimilation, that is to say, of a chemical reaction which is not destructive?" This is the fundamental point at issue in the struggle now raging between the vitalists and the bio-chemists. It is almost to be foreseen that future research will decide in favor of the latter.

* * *

M. L. TANON, jurist, publishes a solid and interesting book called *L'Évolution du droit et la conscience sociale.* He briefly expounds and criticises here the doctrines of the historical school (Savigny and Puchta) and of the utilitarian school, or the doctrine of finality in law (Jhering). He then developes his own ideas, which are those of the historical school more broadly interpreted. The law for M. Tanon is not the simple product of a single principle, however comprehensive we may conceive the latter; but it is the expression of a potent reality, which is none other than life itself; and the factors of its formation and its development are precisely those which determine the evolution of social life in its entirety. The interests which the law protects (the interests of *coexistence* and of *coöperation*) are at once material and moral, and these interests are determined in every age by the mental constitution of the community. The collective sense of the community has accordingly exercised its influence in the formation of the law, —an influence which is not preponderating and exclusive, but important to the extent that it represents the ideal element of the law; that is to say, the totality of the views held in common by the totality of the individual consciousnesses. It is not the struggle

for life alone, continues M. Tanon, that controls evolution; it is in addition the power of association. The criterion of progress is furnished by the degree of coöperation exhibited, as well as in the part played in this coöperation by conscience, will, and liberty; and this recognition of the guiding lines of evolution does not involve the suppression (in Spencer's sense) of either the state or the law.

* * *

We reach the domain of sociology with the study of M. C. BOUGLÉ's *Les idées égalitaires*. Discussion is always open on the subject of these ideas, the great power of which one cannot question, even where one disputes (and the reasons for this point of view are not wanting) their justice and possible realisation. M. Bouglé does not endeavor here to demonstrate that these ideas are just; he confines himself to analysing the sociological and not the moral conditions of their appearance. Observing accordingly that ideas of equality have made their appearance in Western civilisation and nowhere else, first in the morning twilight of the ancient world and the second time at the dawn of the present era; and seeking for some adequate explanation of these facts, he finds it neither in the innate disposition of the races nor in the potency of the doctrines involved. But observation teaches him that the appearance of these ideas is associated with certain *social forms*, that it coincides with certain sociological characters, such as density of population, mobility of individuals and of groups of individuals, greater complication of the human relations and interests and also greater administrative and governmental unification. On the other hand, M. Bouglé is far from attributing the development of these social forms solely and entirely to the action of ideas of equality; they are their consequence, not their cause; and "if the doctrine of equality," he concludes, "appears to-day to be the main motive power of our civilisation, the reason for it is that it is its natural product."

* * *

I have to note under this same heading a work by M. G. L. DUPRAT entitled *Les causes sociales de la folie*, which has purely practical aims in view; a work by M. FRANCK ALENGRY called *Essai his-*

torique et critique sur la sociologie chez Auguste Comte, a production based on careful research and abounding in sound judgments; and a new book by M. LÉVY-BRUHL, bearing the title *La philosophie d'Auguste Comte*, which I can recommend as an excellent general compend of his system, doubtless definitive in its kind. It is curious, let me remark in passing, that the work of Comte should have been depreciated and neglected at the very period in which it was penetrating the minds of thinkers and renovating and giving new life almost to all studies by a secret and often unacknowledged influence; while to-day we are witnessing the rapid growth of an entire literature of positivism, when that influence seems to be exhausted and the philosophy of Comte no longer offers anything more than an historical interest. But it is, as M. Lévy-Bruhl truly remarks, "representative" of this century, and I know of no other which has left so deep an impress or added more to the heritage received from ages past.

Finally, M. E. BOMBARD gives us in the *Bibliothèque sociologique*[1] a work bearing the title *La marche de l'humanité et les grands hommes*, a succinct digest, explanatory, but in no wise critical, of the religious conception of positivism.

* * *

M. E. NAVILLE in a work called *Les philosophies négatives* examines and passes judgment upon skepticism, traditionalism, positivism, dualism, the critical philosophy, and the critical and eclectic philosophy, all of them modes of thought furnishing, in his opinion, valuable data for the construction of a true system, but all treating of the "universal problem" solely for the purpose of declaring its solution impossible.

M. M. MONCALM offers us in a fair-sized volume a discussion of *L'origine de la pensée et de la parole*, a series of discursive studies written with freedom and originality and offering profitable reading to all who are interested in religious phenomena from the point of view of psychology and history, but in some respects confused and slightly desultory.

---

[1] Paris, Giard et Brière, editors.

I note in addition, from M. H. DELACROIX an *Essai sur le mysticisme spéculatif en Allemagne au 14me siècle*, a work of value in which will be found particularly a very clear and complete summary of the system of Meister Eckart, one of the oddest figures of the Middle Age; from M. DOUHÉRET, *Idéologie: Discours sur la philosophie première*, a book impregnated with the sincerest Christian faith; from the MARQUIS DE CHARNACÉ, *Notes d'un philosophe provincial*,[1] treating of divers questions of science and art with competence and breadth; from M. CH. RENOUVIER, *Victor Hugo, le philosophe*,[2] a study conceived in the broadest manner and one that could never have been furnished by a purely literary critic.

* * *

There remains the mention of two works of importance which demand a more extensive analysis than I am able to give here. The one is from the pen of M. CH. HORION, *Essai de synthèse évolutioniste ou monaliste*, in every sense of the word the "philosophical last will and testament" and "examination of conscience" of the author. I have several times visited Dr. Horion, both in Liège, where he died only this year in consequence of injuries sustained by a fall under a street car, and also in his villa at Menton. He was a lover of the sciences as well as a distinguished physician, and in the posthumous work now made public he has passed in review all the great problems of science and philosophy. The first book, which bears the title *Science, philosophie, métaphysique, religion*, is divided into two parts, in the first of which *science* and *facts* are studied, and in the second *principles*. The second book, entitled *L'infini et le calcul dit infinitésimal*, is divided into three parts, devoted to the critical exposition of the doctrine of the infinite as understood by various authors, and of the metaphysics of the infinitesimal calculus. The second part of the work appears to me the most important as well as the most novel, and its perusal will be profitable to all philosophers who feel the necessity of mathemati-

[1] Paris, Perrin publisher. Where no name is mentioned, the publisher is Alcan.

[2] Paris, A. Colin, publisher.

cal knowledge. As to the thought of the book as a whole, it will be sufficient for me to remark that M. Horion is a positivist in the broad sense of the word, accepting neither the doctrinal limitations of Comte nor the Spencerian dogma of the unknowable, and that he professes a monistic philosophy having as its corollary a scientific religion.

From the pen of MME. CLÉMENCE ROYER we have a portly volume bearing the title *La constitution du monde, dynamique des atomes, nouveaux principes de philosophie naturelle.*[1] My remarks upon its contents and methods must of necessity be only fragmentary. Mme. Royer abandons the mechanistic hypothesis, which to-day reigns paramount in science, and reverts to the Ionian doctrine of Thales, Anaximenes, Heraclitus, Moschus, Leucippus, and Democritus,—a doctrine which was subsequently modified or incorrectly understood, she tells us, by Anaximander, Anaxagoras, and Epicurus. For the mechanistic theory, according to which the elementary units of mass are equal, hard, inelastic, and inert,—a theory which leads to dualism, for by it "force" must be sought for outside of matter,—she substitutes the doctrine of dynamism, which asserts that the units composing the universe are unequal, fluid, perfectly elastic, and endowed with internal energy. Basing her investigations on this conception of the atom, she endeavors to explain in detail the grand phenomena of the universe,—vibratory phenomena, solid, liquid, and gaseous states, the vital process, weight, the tides, the evolution of worlds, etc.,—in other words, she strives to establish the identity, under her hypothesis, of the facts of astronomy, of physics, of chemistry, and even of biology.

It is true, the theory of pure mechanism is not so absolutely triumphant as to have found no adversaries among modern philosophers or even among scientists themselves, as the works of MM. Stallo and Mach prove. And it is only just to add that if the hypothesis of hard and inelastic atoms has been generally received, it is because that owing to its reduction of phenomena to "mass" and to "motion" it offers to mathematics simple data for calcula-

[1] Paris, Schleicher, 1900.

tion; a consideration which in no wise removes however the confusion of which physicists have been often guilty in formulating their definitions.

Mme. Royer reaches the variety of phenomena and the fact of their renewal by supposing the constituent elements of the world to be unequal. She discards the notion of empty space which is so embarrassing to the mechanists by attributing elasticity to the unequal atoms; and she gets rid of the disadvantage of assuming elasticity as a primal fact by attributing to the atoms the property of indivisibility; and finally she escapes from dualism by according to these atoms, along with "obscure" consciousness and life, the additional faculty of producing the complex states of life and consciousness by means of ingeniously conceived molecular arrangements.

It is the privilege of every natural philosophy to lay down principles, provided only they are intelligible and can be translated into precise symbols; the fecundity of the hypothesis advanced is then judged by the value of the questions which it raises and the number of facts which it enables us to unify. Whatever grave objections special scientists may advance against the work here presented, they still cannot withhold their admiration from it as a powerful effort toward the interpretation of nature.

LUCIEN ARRÉAT.

PARIS.

COMMUNICATIONS.

THE RECENT PSYCHOLOGICAL CONGRESS AT PARIS.

The members of the Psychological Congress have just taken leave of one another, after six days of discussion, conversation, and stimulating social intercourse. The Congress was opened on the 20th of August, under the chairmanship of M. Th. Ribot. Although older in appearance, M. Ribot showed himself no less active and alert than in the days of 1889. His voice was no less distinct, and his bright, clear eyes were ever wide open as if to catch the light which streamed from the persons and spirit of his audience. His opening address was extremely simple, as is his person; he touched as briefly as possible upon the work which had been accomplished since the Congress of Munich four years ago, and he referred in conclusion to the necessity, now entailed by the overwhelming mass of psychological material, of revising and epitomising results with a view to facilitating investigation and preparing the way for partial syntheses.

After M. Ribot, who had spoken only twenty or twenty-five minutes, came Professor Ebbinghaus, of Breslau, who spoke for a whole hour. This latter gentleman toppled over the psychologists of a hundred years ago in magnificent style, and seemed to derive the deepest satisfaction from their demolition. Professor Ebbinghaus has presence and a fine voice, but also something of the consequential arrogance of an officer examining young recruits. His merit, which is real, would be much more appreciated if he evinced some slight degree of modesty, and did not attribute to himself such excessive importance.

The assembly then split up into seven sections: (1) Psychology in its relations to anatomy and physiology, with M. Mathias Duval as president; (2) Introspective psychology in its relations to philosophy, with M. Séailles as president; (3) Experimental and psychophysical psychology, with M. Binet as president; (4) Pathological and psychiatrical psychology, with M. Magnan as president; (5) The psychology of hypnotism, suggestion, and related questions, with M. Bernheim as president; (6) Social and criminal psychology, with M. Tarde as president; (7) Animal and comparative psychology, anthropology, and ethnology, with M. Yves Delage as president.

In each of these sections interesting communications were made, and useful observations exchanged, but they bore upon subjects too widely different for us to speak of them in any detail. It will doubtless be pleasing to the readers of *The Monist* to learn that the address of Dr. Carus, which was delivered before the second section, was well received, and also discussed, principally by the Rev. P. Bulliot, Professor of Philosophy in the Catholic Institute of Paris, an acute thinker. Several ecclesiastics attended the sessions of the Congress, and the increased ardor with which the French clergy are now participating in the work of modern science is a feature to be noted.

In the fifth section, the epithet "related subjects" referred clearly to telepathy, spiritualism, etc. M. Myers himself was present, and spoke before quite a large audience, among whom were many ladies.

M. Myers, who held the attention of his audience, was succeeded by an orator who lapsed into trivialities, and the session was in danger of being brought to a close by the unbridled narration of ghost stories, if the discussion had not been brought back to the main question at issue by the ruling of the chairman, and had not the flood of futile words been arrested which discussions of this sort ordinarily provoke when they are abandoned to persons devoid of critical power.

In fine, the dominating tendency of the Congress was to restrict discussions to positive issues, and to take its stand upon the ground of carefully conducted experiments and carefully made observations.

In closing, words of sincerest courtesy were exchanged among the members of the different nations,—not the least profitable feature of this Congress,—and it was agreed to meet again at Rome in four years. May all of the distinguished persons who were here present join hands there again in the full vigor of life and intellect!

PARIS, August 25, 1900. A. L.

BOOK REVIEWS.

VÖLKERPSYCHOLOGIE. Eine Untersuchung der Entwicklungsgesetze von Sprache, Mythus und Sitte. By *Wilhelm Wundt*. Leipsic: Verlag von Wilhelm Engelmann. 1900. Pages, 627. Price, 14 Marks.

The *Völkerpsychologie* is the last of the series of monumental works on philosophical and scientific subjects which the great German psychologist has given to the world. The book is a large one, but it is the first volume only of the work, and the first part only of the section treating of language. Its projected extent may therefore be imagined. Professor Wundt always writes large works, and considering them as *Gesammttractate*, covering and epitomising the main literature of the subject, they are for their period definitive.

Language, myth, and custom are not primarily subjects for psychological consideration. They belong, so far as their positive contents are concerned, more properly to the domains of philology and history; but on the other hand they are more intimately connected than are the other historical disciplines with psychology, and they form by their supra-individual and communal character *par excellence* the foundations of social psychology. They constitute also the complement and the natural extension of psychology, and it is on the side of psychology solely and from the special point of view of his own experimental and physiological work that Professor Wundt professes to deal authoritatively with the subject. To him history, ethnology, mythology, custom, and tradition are but so many experiments which mankind has made socially and concerning which the psychologist is as thoroughly qualified to form his judgments as are the specialists proper.

Psychology, according to Professor Wundt's phraseology, is the science that is concerned with the origin and relationship of the facts of experience as these are directly presented to us in subjective consciousness. But in this acceptation the science is conceived as *individual* psychology. It is not occupied with the analysis of phenomena which are the outgrowth of men's living in common; the last-named phenomena form the subject-matter of a distinct science—the science of *social* psychology (*Völkerpsychologie*).

It is impossible to minimise the maguitude of the influence of the social environment upon the individual consciousness; in fact, the emphasis of this factor

has become the signature of recent psychological research. Tradition, as a species of social inertia, language, with its concomitant fixity of thought, the customary and received modes of education and breeding, are the fundamental conditions of all subjective experience; and they have brought it about that many of the facts of individual psychology received their first elucidation from the discoveries of social psychology.

Viewed in this light, social psychology is of the nature of what might be called *applied* psychology, using the word *applied* in a different sense from its meaning in the phrases *applied physics*, *applied chemistry*, and in a different sense also from its meaning in the phrase *applied psychology* as synonymous with pedagogy. Social psychology turns the results of general psychology to no practical account whatever, but like individual psychology is itself a purely theoretical science. The study of the origin and evolution of language, of the formation of mythological and religious concepts, of the origin of ethical customs and sentiments, bears directly on psychology itself and on the allied *theoretical* sciences of mind. From this point of view, social psychology is not only of the nature of an application of the principles of individual psychology, but is also an extension of the same to the social community viewed as a living and developing unit. It thus comes about that social psychology is concerned with groups of psychical facts which are its own exclusive province and which are excluded altogether from general psychology in the common acceptation.

The German term *Völkerpsychologie*, literally *ethnic* psychology, as applied to the science which we have been characterising, is both an apt and an inapt designation. The individual is not only a member of a race, a people, a nation; he is also a member of a family, born to a certain station in life, member of a certain caste, equipped with a certain karma, moulded by a certain profession, shaped in fine by countless other possible communal organisations existing independently within the state. All this is only imperfectly designated by the expression *ethnic psychology* (*Völkerpsychologie*), and is more aptly expressed by the phrase *social psychology*. On the other hand, the phrase *social psychology* suffers from its own limitations. Too much stress is laid upon the factor of "society" and too little upon the factor of "state" and "people"; and for these reasons Wundt retains the usual term. The ethnic or social psychology about which he is employed is to be carefully distinguished from what might naturally be conceived as ethnic psychology, viz., the analysis of the intellectual characteristics of single races and nations,—an analysis which would form a species of complement to the researches of physical ethnology. But the points of view of ethnic psychology, or rather psychic ethnology, as thus conceived, are essentially the points of view of individual psychology and hence do not form a part of social psychology as Wundt is considering it here. Further, not only is the psychological side of ethnology excluded from psychology, but so also is the history of literature, art, and science, which are largely the product of individual initiative. Of all the branches of the history

of civilisation, the primitive history of mankind alone is more intimately allied with social psychology, for the results of research in this domain partake necessarily more of a general than of an individual character. Considering all these limitations, finally, social psychology is defined by Wundt as the science of those psychological phenomena which constitute the groundwork of the general evolution of human communities and are thus present at the origin of all communal intellectual products laying claim to universal validity.

As to the contents of the book it is a systematic digest of a vast amount of material relating to the physical nature and composition of language treated from the point of view of physiological and experimental psychology. Beyond this it does not go. The restrictions which Professor Wundt has imposed upon himself have been rigorously adhered to; the origin and evolution of language are not considered, but are doubtless deferred for subsequent consideration. The first chapter deals with motor expressions of sentiments and feelings; the second with the language of gestures; the third with the typical sounds employed in animal and human language; the fourth with the transformations which linguistic sounds have suffered; the fifth with the formation of words, the psychic conditions of world-composition, the psychology of verbal images, etc. Professor Wundt's attitude with regard to the main problems of psychology are too well known to require explicit repetition, and it is sufficient to say that they have been applied to the materials here in hand, with all his customary vigor and thoroughness. *μ.*

VORLESUNGEN ÜBER PSYCHOPATHOLOGIE IN IHRER BEDEUTUNG FÜR DIE NORMALE PSYCHOLOGIE MIT EINSCHLUSS DER PSYCHOLOGISCHEN GRUNDLAGEN DER ERKENNTNISSTHEORIE. By *Dr. phil. et med. Gustav Störring*, Privatdozent der Philosophie an der Universität Leipzig. Leipsic: Verlag von Wilhelm Engelmann. 1900. Pages, 468. Price, bound, 10 Marks.

The author of the present volume is a disciple and admirer of Professor Wundt, and the tenets of the Leipsic school are the foundations upon which he builds. The first lecture is devoted to defining psychology and psycho-pathology and to a general characterisation of methods. Rejecting the old definition of psychology as the science of the soul, Dr. Störring defines it to be the science of the phenomena of consciousness, and to be concerned with the analysis of these phenomena and with the laws of their causal connexion. Psycho-pathology is the science of the diseased and abnormal phenomena of consciousness, and is divided into general psycho-pathology and special psycho-pathology, the former of which is concerned with the effects and general causal relationships of intellectual maladies, and the latter with the medical and therapeutic consequences of the doctrines thus reached. The importance of psycho-pathology for psychology is therefore limited to general psycho-pathology entirely.

What, then, is the psycho-pathological method of psychology? Psychology, with respect to methods, may be divided into, (1) metaphysical psychology, which

was largely an artificial and predetermined construction and was totally unconcerned with observation; (2) the empirical psychology of self-observation, which while having correct ends in view was handicapped by the uncertainty of its procedure; and (3) empirical psychology as supplemented by the experimental methods of physics, physiology, anatomy, etc. The possibility of experimenting in the psychological domain is due to the fact that definite psychical phenomena are dependent upon definite physical phenomena. And while the machinery of our intellectual and perceptual imagery is as much dependent upon physical phenomena as are our acts of volition or emotion, here, however, the physical excitations necessary to disengage the psychical phenomena are of far more complex character, and the success which accompanied experimenting in the simpler field was not forthcoming. At this juncture, the study of the pathology of the individual life came to our assistance; for in pathological cases nature performs for us experiments which are quite beyond our power or conception, and which are almost invariably connected with the complex psychical phenomena most difficult to investigate directly.

Of the phenomena of pathological psychology those cases are naturally most valuable in which a single component only of a psychic whole has been disturbed. The analogy with physical experiment is here perfect. The disturbance in question enables us to determine the efficacy of this component as a direct cause. The intensity of the component may here be recorded, and what is obscure in the normal psychic life here becomes distinct. Next in importance to the alteration or elimination of a single component is that of a limited number of components; the conclusions which may be drawn in this case being evident. Another ground of the signal importance of pathological phenomena for normal psychology is that they furnish opportunity for *verifying psychological theories*. The ability of a psychological theory to explain pathological phenomena easily and clearly, contributes not a little to its establishment. Further, the study of pathological phenomena is productive of invaluable hints for the *formulation of new problems*; and this is not one of the least important factors in the advancement of science.

With respect to the relations of anatomy and physiology to the solution of psychological problems, the author accepts the universally acknowledged principle that psychical phenomena run parallel with physiological phenomena, that the two are connected functionally, and that a quantitative alteration in the one series cannot take place without a quantitative alteration in the other. He also accepts the assumption, now regarded as axiomatic, that the physiological processes correlated with psychical phenomena form a closed causal connexion; and he adds with Wundt "that such phenomena only can be disposed in the relationship of cause and effect as are alike in composition and character; for such only permit of measurement by like measures and of subsumption under like laws."

The author refuses his assent to the methods which seek the solution of the problems of our psychic life by anatomy and physiology solely; he does so on the ground of the well-known contention that even the most perfect insight into the

causal connexion of the physiological processes of the cortex can furnish us no information regarding the nature of the psychical phenomena corresponding to them. The same reasoning holds true with regard to all the anatomical centers and channels of nervous communication. It is thus certain that in the majority of cases the psychological method is more certain to lead to the desired results than the anatomical and physiological method. We have discovered, for instance, by this method the laws of the succession and association of images, whereas the corresponding physiological processes are still veiled in obscurity. On the other hand, it would be a mistake in his opinion to follow the psychological method of observation absolutely; it is impossible sometimes to reach results without consideration of the physiological factors. In many instances the psychical situation is not analysable from the psychical side with absolute certainty, because certain classes of sensations, with whose alteration we may be concerned, cannot be placed in the center of consciousness. In sum, the pursuit of psychical phenomena is to be conducted predominantly along psychological lines; but the physiological factors frequently furnish valuable assistance, and are sometimes indispensable.

The preceding considerations viewed as a methodology for psycho-pathological research are not exactly new, but they are important as determining the attitude of the author to his subject. The work consists of twenty-five lectures devoted (1) to the psycho-pathology of the intellectual functions, (2) to the psycho-pathology of the emotions, and (3) to the psycho-pathology of the will, in so far as these topics bear upon normal psychology. Hallucinations of sight, hearing, movement, and taste, aphasia, paraphasia, amnesia, and anomalies of the ego-consciousness, are among the subjects treated. *μ.*

DER AUFBAU DER MENSCHLICHEN SEELE. Eine psychologische Skizze. By *Dr. med. H. Kroell.* Leipsic: Verlag von Wilhelm Engelmann. 1900. Pages, 392. Price, bound, 6 Marks.

Dr. Kroell was moved to the composition of the present work by the truculent intellectual struggles which signalised the Psychological Congress at Munich in 1896. He is convinced that the difficulties which have stood in the way of the felicitous solution of the great burning problems of psychology are in the main attributable to the unnatural separation of force and matter, and ulteriorly also of body and soul. His conception of the psychic life is absolutely that of the evolutionary monistic view, but its novelty has perhaps received more emphasis at the hands of the author than the nature of the case would seem to justify. The soul is considered as being constantly in growth, and its development as not ceasing even with death, but as continuing in the culture and civilisation of the species. In fact, we have here the phylogenesis of the human soul roughly traced on the background of anatomical, physiological, and general biological and cosmological considerations. The reasoning runs somewhat as follows:

Man sprang originally from cellular elements, reaching the vegetative stage

through association of the cells. The forms of the joint reality force-and-matter, which entered the undulatory movement of the body-cells of this vegetative organism and passed out of it again as they would out of any other object, were at this period entirely of a *chemical* nature. Upon this vegetative sub-structure was formed then a nervous system for the reception through the senses of the *physical* forms of motion of the outward world, and the culminating point of development of the nervous system was the brain, which performs the functions of thinking, feeling, and willing. There can be no psychical feeling, thus, without prior perception or knowledge derived from the sources mentioned, and there can be no will without some prior intellectual act, whether alone or in conjunction with psychical feeling. This order is not reversible and answers to the forward movement of excitations travelling along determined paths in the reflex arcs. By virtue of the specific energy of the ganglionary masses situated along these paths arises at the terminus of the centripetal branch knowledge and intellection. The succeeding ganglionary groups evoke psychical feeling and emotion, and through the ego-consciousness and the neurons of volition the action finally enters the cyclical movement once more, or is carried again through the neurons of consciousness, or passes directly over into the centrifugal branch and appears in the phenomenal world as an act of will, creating or destroying, or entering as a word the souls of other men and producing there new intellectual activity. The repetition of the cyclical movement mentioned through the neurons of consciousness gives rise to specific and characteristic modes of thinking, feeling, and willing, and thus distinctive and idiosyncratic bodies of psychical activity are produced which impress a peculiar and definite stamp upon the intellectual life of the individual and so determine his character. The stimuli which the separate processes receive and the checks which they suffer, their correspondences and contrarieties, are felt in those neurons of consciousness in which conscious phenomena are brought to inward view, that is to say, in the *ego*-consciousness, and they are there on comparison either retained or rejected, and so finally disposed in a closed and orderly whole. In the ego-consciousness there thus arises a sort of court of last appeal which issues definitive judgments upon thinking, feeling, and willing,—an energy which to save the old metaphysical monadic soul has been frequently termed reason. Without the factors mentioned there is no ego-consciousness and no reason. The latter is a *final* outgrowth of phenomena of consciousness, and proceeds from prior psychical transformations only. It may even be eliminated, as hypnosis proves.

Man and the world constitutes thus a rigorously knit and unitary system of reflexes. Man's entire being, his entire thought, is a part only of the great undulatory movement of the cosmos, the force and matter of which, conceived as a joint reality, has but taken transitory form in him. He has become, through his physical and physiological character as thus determined, a reservoir of that force and matter, and through his power of will he has become a center of distribution of the same. Through it he has become master of the earth. The transformation

and improvement of the globe and the race lie in his power; in fine, his fate rests in his own hands. His work is the culture and civilisation of the human race. He is a member of human society, and from his communal life ethics has arisen with absolute necessity. The struggle for truth discloses the fountain-head of the good deed, and the knowledge of this fact guides the current of life into the strait channels of ethics. *μ.*

Ueber Psychologie der individuellen Differenzen. Ideen zu einer differentiellen Psychologie. By *L. William Stern*. Leipsic: Verlag von Johann Ambrosius Barth. 1900. Pages, 146. Price, 4.50 Marks.

Specialised as psychology itself is, its progress in the last thirty years has been marked by a great variety of minor specialisations. Psycho-physics, experimental psychology, ethnic and social psychology have been the main branches from which the minuter ramifications have shot forth, and we are now confronted with a new psychologic "sport" which bears the designation of *differential psychology*, and which is concerned with the subtle and elusive problems of individual idiosyncrasies and differences,—problems which have hitherto been mostly abandoned to the divinations of genius or to the clumsy and stereotyped analyses of so-called common sense.

Differential psychology studies, first individual differences *per se*, secondly their conditions and causes, and thirdly their forms of expression. The first question it asks is, Of what do these differences consist, in what definite respect do individuals, nations, races, etc., differ as to their psychical life? To answer this question a classificatory and descriptive *theory of differences* is required. The second question as to conditions and causes finds its answer in investigations of the relationships obtaining between psychical character and the objective factors of heredity, climate, caste, education, adaptation, etc. This inquiry gives rise to a *psychical ætiology* or *differential psycho-physics*. The question as to the various forms of expression of these differences is answered by researches and experiments relating to facial expression, hand-writing, and similar activities symptomatic of psychical peculiarities. This would give rise to a theory of *psychical symptomology*.

Considerable has been done with regard to the second and third of the problems here set, but little has been done with respect to the first, which from the scientific point of view is the most important. Individuality, according to Dr. Stern, is the problem of the twentieth century, and psychology should not be found wanting in its contributions to its solution. While the differential psychology which he proposes is by no means new, as may be learned from the rich bibliography which he has appended to his book, its labors have nevertheless been desultory and unsystematic, and characterised above all by timidity. It lacks, in fact, the quality of what Dr. Stern characterises as *das In-sich-gefestigt-Sein*, which

Anglo-Saxonised means "the-in-itself-being-fastenedness,"—a moral attribute which, all will grant, is absolutely necessary to success.

As to his own achievements, Dr. Stern is conscious of having offered no more than the foundation-stones of the edifice of the new science, but he nevertheless believes that his ideas constitute a valuable program for future work. His treatise is divided into three parts. The first deals with the methods and problems of differential psychology; the second offers a few specimens of the *experimental* treatment of psychological differentiations; and the third gives the literature of the subject. Psychological types; individuality, normality, and abnormality; the value of history and poetry and of the history of civilisation for differential psychology; sensitiveness, types of mental imagery; memory, association, types of comprehension; attention, judgment, types of reaction, emotions; the psychical tempo; and the graphical study of psychical energy,—these are the subjects of some of the principal headings. *μ.*

Die Seele des Kindes. Beobachtungen über die geistige Entwicklung des Menschen in den ersten Lebensjahren. By *W. Preyer*. Leipsic: Th. Grieben's Verlag (L. Fernau). 1900. Pages, 448.

Preyer was the pioneer of technical infant-psychology. His work on the soul of the child first appeared twenty years ago; the fourth edition was published in 1895, prior to his death; and now we have the fifth edition, the redaction of which has been confided to his pupil, Dr. Karl L. Schaefer, Privatdocent of physiology in the University of Berlin. It would be superfluous to indicate either the character or the contents of the work. The fourth edition was subjected to thorough revision at the hands of the author himself, and the present editor is bound to confess that he has found little in recent works on psychogenesis that have demanded serious notice. The main alterations have been in the chapters treating of the development of the senses and of the will, which have been worked over and expanded to conform to the advances made in the physiology of the senses and the anatomy of the brain. Preyer's manuscript notes on certain of the psychological chapters have been worked into the text, but otherwise no alterations of a radical character have been made. *μ.*

Das Chaos in kosmischer Auslese. By *Paul Mongré*. Leipsic: Verlag von C. G. Naumann. 1898. Pages, 213.

In a rather diverting preface the author of the present work solemnly asseverates that it was not he that attacked the problem which it is written to solve, but that it was the problem that attacked him; and the ungenerous critic might be tempted to remark that the work is riddled with evidences of the assault's having been a successful one.

That, however, is not our opinion, for the argument of the book, such as it is, has been carefully wrought out and offers some points for reflexion. The author's

disclaimer of being a professional thinker can hardly be accepted, since the work bears the stamp of considerable philosophical research, especially from the scientific and mathematical side. He is convinced that there is philosophically the same necessity of our abolishing what he calls the cosmocentric superstition as there was formerly of our abolishing the geocentric and anthropocentric doctrines. There are, he asserts, an infinite number of cosmic worlds latent in the primeval chaos, each of which appears to its inhabitants as the only and exclusively real world, and so allures them into attributing its peculiar and distinctive idiosyncrasies to the transcendental world-nucleus itself. But this transcendental world-nucleus is withdrawn from all bonds of constraint, be they ever so light, and always retains its liberty of appearing as a cosmos in an infinite number of ways. A certain complexus of syntheses, S_{ab}, characterises *our* empirical world; if we change but one of the component syntheses, the entire complexus will be changed and a new consciousness by the side of our own produced, which by automatic selection (*Auslese*) will sift its cosmos out of the chaos as we have sifted ours. From this point of view, it is impossible to attribute to the system of limitations and syntheses which define *our* reality any ulterior objective precedence above other systems, apart from its simple relation to us. We have here, in fact, a species of epistemological fatalism, which collapses utterly in face of the accomplished fact. Reality is always reality *determined in some particular way*. Existence is invariably essence. Of infinitely many possible cases, some special case must find its realisation; but the question which one shall find it, every consciousness must answer for itself. If it were not this it would be some other, and then our consciousness would be other. And so ends the tale. μ.

THE STUDY OF LAPSES. Monograph Supplement to *The Psychological Review*. By *H. Heath Bawden, A. M.* New York: The Macmillan Co. 1900. Pages, 122. Price, 75 cents.

In general interest the present pamphlet easily surpasses the other monographs recently issued as supplements to the *Psychological Review*. It treats of "those unaccountable lapses of thought and expression" which ordinarily attract little attention and even when unusual elicit only a laugh or a passing smile. But occasionally, says Mr. Bawden, they are of such extraordinary character as to excite comment, and evoke inquiry as to their causes and probable significance in relation to mental life in general. For example, Professor James mentions the case of a man who said that he was "going to the coal to buy the wharf"; and the writer cites the instance of a friend who said he was going out for a walk in order to "get a bresh of freath air." Another instance related to the reviewer is that of a lady who upon entering a church in which she was a stranger asked the usher; "Does any one occupew this py?"

Innumerable other instances of this species of lapse might be cited but the foregoing are sufficient for our purpose. Inadvertences in expression, aberrations

in speech, lapses of thought, confusions of ideas, hitches and slips generally in speaking or writing,—such in their endless and bewildering variety are the materials which constitute the subject of Mr. Bawden's researches, and which are treated as guides to our understanding of mental processes. Their conditions are studied, and the principles of their classification formulated. Experiment has been called to the assistance of accident, and lapses have been artificially and purposely produced for formal examination. The longer section of the work is naturally devoted to "lapses as a study in association." The main result of this study is the fresh illustration which it affords of the so-called laws of similarity and contiguity, which the author is able to state in the form of the single law, "that contiguous similars tend to coalesce." In fact, the results of Mr. Bawden's researches are nearly all corroborative of existing principles rather than discoveries of new laws. He finds, for example, that among the current theories of the ludicrous the deformity and immorality theories find distinct support in the phenomena of lapses; and he further notes that "the examination and comparison of lapses and sense-illusions, have brought out with great clearness the arbitrary nature of the ordinary distinction between the 'sensory' and 'motor' aspects of the organic circuit." But perhaps the most important and striking result which he reached is, to use his own words, the fact of "the functional rather than *merely* analytic interpretation which the phenomena of lapses require." "It is at present impossible," he says, "to carry this functional treatment into the details of specific cases with any degree of certainty, because the method itself, at least when applied in psychology, is still undeveloped. But wherever the functional method can be applied, even in a general way, it always illumines the content analysis. Another such corroborative result is the striking confirmation which the analysis of lapses furnishes, of the bipartite analysis of 'conscious elements.'" μ.

THE PSYCHOLOGICAL INDEX, No. 6. A Bibliography of the Literature of Psychology and Cognate Subjects for 1899. Compiled by *Howard C. Warren*, Princeton University, with the co-operation of *N. Vaschide*, Paris, *B. Borchardt*, Berlin, *Robert S. Woodworth*, New York, and *J. Larguier des Bancels*, Lausanne. New York: The Macmillan Co. 1900. Pages, 174. Price, 75 cents.

This valuable compilation includes all the original publications which have appeared in all languages, in the departments of psychology and cognate subjects, for the year 1899, together with translations and new editions in English, French, and German. The number of titles listed runs up to 2584, which includes several works which were received too late for insertion in No. 5 of the *Psychological Index*. There are eight main headings, as follows: I. General, including text-books, systematic treatises, psychological construction and criticism, methods, scope and relations of psychology, historical and biographical, collections, proceedings, descriptions, and bibliographies; II. Genetic, Comparative, and Individual Psychol-

ogy, including mental development, theory of evolution, heredity, comparative psychology, child-psychology, pedagogy, individual, sex and class psychology, anthropology, ethnology, sociology, and criminology; III. Anatomy and Physiology of the Nervous System, including relations of mind and body, neurone and nerve-elements, spinal cord and nerves, the brain, localisation of function, organs of sense and movement; IV. Sensation, including synæsthesia, vision, hearing, and other senses; V. Consciousness, Attention, and Intellection, including psychical work, fatigue, contrast, psychical research, sleep, dreams, sub-consciousness, attention, memory, recognition, imagery, association, duration, intensity and extensity, perception of objects, time, space, etc., normal illusions, logical processes and belief, self-consciousness, theory of knowledge, philosophy; VI. Feeling, including pleasure and pain, emotion, passion and expression, sentiment, æsthetics; VII. Movement and Volition, including dynamogenesis, movement, inhibition, particular motor functions, instinct, impulse, volition, ethics, conduct, and philosophy of the will; VIII. Abnormal and Pathological, including disorders of sensation and perception, hallucinations, disorders of memory and personality, motor disorders in general, disorders of speech and writing, disorders of emotion, instinct, impulse and will, insanity, idiocy and imbecility, hysteria, neurasthenia, epilepsy, hypnotism and suggestion. There is also an index of authors.

BIOLOGICAL LECTURES FROM THE MARINE BIOLOGICAL LABORATORY OF WOODS HOLL, 1899. Boston: Ginn & Co. 1900. Pages, 282. Price, $2.65.

With the exception of a paper on "Some Governing Factors Usually Neglected in Biological Investigations," by Prof. Alpheus Hyatt, and possibly also the paper on the "Nature of the Evidence Exhibited by Fossil Plants," the articles that constitute the volume of the Biological Lectures delivered at the Marine Laboratory of Woods Holl, for 1899, are predominantly of a technical character. It will be sufficient, therefore, to append the simple enumeration of their titles, which are as follows: I. The Evolution of the Sporophyte in the Higher Plants, by Douglass Houghton Campbell; II. The Nature of the Evidence Exhibited by Fossil Plants, and its Bearing Upon our Knowledge of the History of Plant Life, by D. P. Penhallow; III. Influence of Inversions of Temperature, Ascending and Descending Currents of Air, Upon Distribution, by Prof. D. T. Macdougal; IV. Significance of Mycorrhizas, by Prof. D. T. Macdougal; V. Instinct, by Edward Thorndike; VI. The Associative Processes in Animals, by Edward Thorndike; VII. The Behavior of Unicellular Organisms, by Herbert S. Jennings; VIII. The Blind-Fishes, by Carl H. Eigenmann; IX. Some Governing Factors Usually Neglected in Biological Investigations, by Alpheus Hyatt; X. On the Development of Color in Moths and Butterflies, by Alfred Goldsborough Mayer; XI. The Physiology of Secretion, by A. Mathews; XII. Regeneration: Old and New Interpretations, by T. H. Morgan; XIII. Nuclear Division in Protozoa, by Gary N. Calkins; XIV. The Significance of the Spiral Type of Cleavage and its Relation to the Process of

Differentiation, by C. M. Child; XV. The Aims of the Quantitative Study of Variation, by C. B. Davenport; XVI. On the Nature of the Process of Fertilisation, by Jacques Loeb.

EDUCATION OF THE PUEBLO CHILD. A Study in Arrested Development. By *Frank Clarence Spencer, Ph. D.*, Sometime Scholar in Education, Teachers' College, Columbia University. New York: The Macmillan Co. 1899. Pages, 97. Price, 75 cents.

THE ECONOMIC ASPECT OF TEACHERS' SALARIES. By *Charles Bartlett Dyke, A.M.*, Professor of Education in Hampton Institute, Va. New York: The Macmillan Co. 1899. Pages, 83. Price, $1.00.

EDUCATION IN INDIA. By *William I. Chamberlain, Ph. D.*, President of Vellore College, India. New York: The Macmillan Co. 1899. Pages, 106. Price, 75 cents.

HORACE MANN IN OHIO. A Study of the Application of His Public School Ideals to College Administration. By *George Allen Hubbell, A. M.*, Sometime Professor at Antioch College. New York: The Macmillan Co. 1900. Pages, 70. Price, 50 cents.

The works bearing the titles above listed are the first four numbers of the Columbia University Contributions to Philosophy, Psychology, and Education. The first, by Dr. Spencer, on the education of the Pueblo child, is a study of the forces and methods which tend to arrest progress. The Pueblo Indians of the Southwest offer an interesting field for research in this direction. They attained their civilisation in advance of the Indians surrounding them, then by conditions which Dr. Spencer discusses in his book, their development was arrested, and their civilisation has since stood practically still. "A careful study of their condition, their ideals and means of attaining them," says the author, "may reasonably be expected to throw some light, not alone upon the primitive aims and methods, but upon the question of the adjustment of the individual to the social whole and its relation to the larger problem of national progress." He has treated his subject from the biological point of view, though without slighting the history of the Pueblo Indians. He finds that the methods of education employed by them are exactly suited to perpetuate their static condition, the apprentice-method being predominant in both their industrial and religious instruction and re-enforcing their superstitious beliefs to such an extent that variation is practically impossible.

Mr. Dyke's treatment of teachers' salaries, the subject of the second monograph, is interesting from many points of view. He has undertaken his study from the conviction that the work of the public school teacher of this country is not sufficiently appreciated, and that his remuneration is far from commensurate with his high calling. He has investigated the economic basis of teachers' salaries, com-

paring them with the incomes of workingmen and of European teachers, has explained why they are low, and suggested plausible methods for their improvement

In the third monograph, Dr. Chamberlain briefly tells the history of British education in India; while in the fourth Mr. Hubbell has studied the work of the noted American educator, Horace Mann, in connexion with Antioch College at Yellow Springs, Ohio. The educational world owes much to Horace Mann, but by far "his highest gift to educational thought was the Antioch Spirit." "This," says Mr. Hubbell, "is an attitude of mind and heart. It means plain living and high thinking, the spirit of self-conquest, and such simplicity and directness of character as leads one to fundamental conditions, inspiring him 'to find the law of things and to master facts and their significance'; but it loves knowledge less for its own sake than for the high uses to which it may be applied. It seeks to recognise and welcome truth in every form and at any cost."

THE SOCIAL MIND AND EDUCATION. By *George Edgar Vincent*, Assistant Professor of Sociology in the University of Chicago. New York and London: The Macmillan Co. 1897. Pages, ix, 155. Price, $1.25.

We regret not having been able to notice before this pleasant and suggestive little work. Its expositions are based upon wide and aptly selected reading, and its results are the thoughtful and natural outcome of some of the best-accredited doctrines of modern social psychology. According to his own statement, the task which Professor Vincent has set himself in this essay is one of organisation and correlation, rather than of investigation. By bringing the dominant conceptions of social philosophy to bear upon the problem of education, he hopes that there may result both clarification of ideas and greater definiteness of purpose. We have now been taught to regard the development of society as "the growth of a vast psychical organism to which individuals are intrinsically related and in which alone they find self-realisation." Certainly, this is a thought of the highest significance to educationists, and its elaboration in a theoretical scheme of education, critically safeguarded, must be fraught with the greatest consequences. Professor Vincent's arguments, largely in his own phraseology, are as follows:

Men's ideas, judgments, and desires, their conditions, their common labors, culture, and civilisation, have been transmitted from generation to generation as the joint heritage of the race, reacting upon individuals and in their turn reshaped and constantly altered by individuals. These "capitalisations of experience" form what may be described as the "social mind." The social tradition, which is the historical embodiment of the social mind, has been enriched in successive generations by constantly increasing accumulations and by constantly increasing power; empiricism and common sense as engines of natural and mental inquiry have gradually given way to more methodical procedures, which have found their expression in our present science and philosophy. Confronted from the beginning by a vast mass of physical, vital, mental, and social phenomena, the race, struggling for

unity and economy of thought, has analysed and combined these phenomena into synthetic and organic groups of facts, controllable by so-called principles and laws, and resulting in "explanation." There have been gaps in its chains of explanation but these gaps have grown smaller and smaller as time has gone on, especially so in the group of facts constituting the physical sciences. Social phenomena were the last to receive scientific explanation, yet despite this fact there has always existed in the collective tradition of the race a group of social theories, existing there in comparative isolation and in vague consciousness, and not until recently brought into close relation with the other sciences. In fact, in the newer classifications the older sciences are even subordinated to the new science of society, broadly considered, and modern social philosophy is conceived as the latest conscious synthesis of the social mind.

And now as to the application of the doctrines of the new social philosophy to the practical purposes of education. "The sciences or groups of knowledge, which have been organised out of the experiences of the race, are all related to the social life, which is their point of departure and the common center to which they return." Here everything hinges. Social philosophy turns to its own account the *analogies* which the older and more perfected sciences offer. In one of its phases it has been a species of *applied psychology* (the school of Tarde, which explains social growth by the laws of imitation, etc.), and in another aspect it has been a species of *applied biology* (the mental evolution of the race being conceived as running parallel and in analogy with the biological evolution of the race). The educational implications of both views are apparent; the latter view, that of the biological parallel of phylogeny and ontogeny, is the oldest and more widely accepted one. Both have been carried to their extremes, and both are therefore open to grave criticisms. The broad or purely sociological point of view, on the other hand, "regards society as a developing whole, to be interpreted by concepts derived from both biology and psychology,—in terms, therefore, of structure, function, mind, consciousness, and personality." In other words, society has, in this view, its own biology and its own psychology, etc., and its educational implications are the joint product of the analogies suggested by all of these sciences. The development of the individual is, it is true, the abbreviated development of the race, but not only embryologically and biologically, but also psychologically, artistically, etc.

Education, thus, has latterly been recognised as the effort to recapitulate in the individual, in the briefest time and with the greatest economy of effort, the psychological, and, in a subordinate degree, the cultural, industrial, and other, development of the race. A detailed and complete recapitulation is impossible; hence the necessity of omitting some of the phylogenetic stages altogether, and the introduction of "short-cuts" so called. From this point of view, "the educational function may be described, though possibly not defined, as a purposeful social effort to effect 'short-cuts' in the mental development of the individual as well as to hasten the whole process so that he may in the briefest time and in a thoroughly

natural way attain the standpoint of the race, i. e., be intrinsically related to the social tradition." We see that the implied theory is of the nature of a compromise. The older education regarded instruction as one great forced "short-cut" of the air-line order; while the new recapitulation-doctrine conceives it as "a direction of a process of growth." "Both views may be carried to extremes. Their synthesis represents education as recognising the general parallel of individual and race development, but as also consciously seeking to take advantage of all 'short-cuts' for the sake both of the unit and of society."

We shall not follow Professor Vincent in his chapters on the "Integration of Studies" and "A Tentative Curriculum"; we leave the pursuit of these details to the reader, and shall conclude with the quotation of a passage characterising his practical educational attitude.

"The present social environment," he says, "including man, nature, and these two factors in interaction, is the unity which the pupil must gradually differentiate into classes of phenomena. This environment becomes thus the point of departure for mental excursions in both time and space. The difficulty at first is in enabling the young mind to form these classes, to leave the immediate here and now When once this has been accomplished, however, quite another problem presents itself, namely, how are these classes to be combined and interrelated? All attempts to meet this last difficulty resolve themselves, in spite of differences of detail, into an effort to restore the abstracted factors to their places in the community life of which the pupil is an organic part." μ.

INTRODUCTION TO ETHICS. By *Frank Thilly*, Professor of Philosophy in the University of Missouri. New York: Charles Scribner's Sons. 1900. Pages, xi, 346.

Dr. Thilly, Professor of Philosophy in the University of Missouri, has made distinctive additions to English philosophical reading by his translations of Weber's excellent *History of Philosophy* and of Paulsen's *System of Ethics*, and he now appears before the public as an independent author of an *Introduction to Ethics*, a work which upon the face of it makes no higher pretension than that of being a text-book, but as such is simple and clear, accurate in its analyses of past and current systems, and showing much common sense in its modes of exposition.

In his first chapter, Professor Thilly treats of the nature and methods of ethics. He discusses here, first, the function of science,—in a manner which in our opinion does not altogether do justice to the subject, even within the limited space devoted to it. He then considers in a general way the data of the various sciences, afterwards taking up the data of the science of ethics in particular, and defining ethics roughly as "the science of right and wrong, the science of duty, the science of moral principles, the science of moral judgment and conduct. It analyses, classifies, describes, and explains moral phenomena, on their *subjective* as well as on their *objective* side. It tells us what these phenomena are, separates them into

their constituent elements, and refers them to their antecedents or conditions; it discovers the principles upon which they are based, the laws which govern them; it explains their origin and traces their development. In short, it reflects upon them, thinks them over, attempts to answer all possible questions which may be asked with reference to them. It does with its facts what every science does with its subject-matter: it strives to know everything that can be known about them, to correlate them, to unify them, to insert them into a system."

After this preliminary statement as to subject-matter and method, Dr. Thilly notes the interrelation of all sciences, and especially that of ethics and psychology. He remarks, for example, "that in so far as ethics deals with moral states of consciousness, it is simply a special branch of psychology." And he continues: "But our science does not only look at the subjective side of conduct, it investigates the objective side also, and the relation which this bears to the subjective. What, it asks, is the nature of the acts which are judged moral; do they possess some mark or characteristic that makes them moral or leads men to call them so? Why do men judge as they do; what is the ground of moral distinctions? Why is wrong wrong, and right right? Explain the virtues and duties, e. g., benevolence, charity, justice, veracity, etc., and their opposites. Is there a standard or criterion or ideal by which conduct is judged, and what is it? Can we justify this standard or ideal, or is it something that cannot or need not be justified? Given a certain ideal or standard, what conduct is moral, what immoral? Does humanity remain true to the ideal? What is the highest good for man, the end of life? Can we specify it scientifically, or is it impossible to do so?

"Such are some of the questions which our science asks and seeks to answer. Should it be said that these also are problems for psychology to solve, we should raise no serious objection. The important thing is that the phenomena in question be examined and explained; whether by psychology or a special science does not matter. Ethical facts are, to a great extent, mental processes, and as such objects of psychological study. But the same may truthfully be said of the data of æsthetics. A science must thoroughly explain its facts, and, strictly speaking, psychology would have to explain ethical and æsthetical facts. But sciences divide their labor, and it is in keeping with the practices of modern scientific research that psychology should hand over to a special discipline the consideration of a particular set of its facts."

Similar considerations are adduced with respect to the relations of ethics to politics and of ethics to metaphysics. And the same simple and elementary mode of treatment is sustained in all the other subdivisions of the chapter, is characteristic in fact of the entire book. Thus, in Chapter II. we have *résumés* of the various theories of conscience that have been advanced during the history of thought, —as the mythical view, the theory of the Rationalistic Intuitionists (the Schoolmen, Cudworth, Clarke, Calderwood), the theories of the Emotional Intuitionists (Shaftesbury, Hutcheson, Hume, Rousseau, Kant, A. Smith, Herbart, Brentano),

the theories of the Perceptional Intuitionists (Butler, Martineau), of the Empiricists (Hobbes, Locke, Helvétius, Paley, Bentham, Hartley, Bain), and of the Empirical Intuitionists (Kant, Darwin, Spencer, and contemporaries). Chapter III. is devoted to the "Analysis and Explanation of Conscience"; Chapter IV. to "The Ultimate Ground of Moral Distinctions"; Chapter V. to the "Teleological View"; Chapter VI. to "Theories of the Highest Good: Hedonism"; Chapter VIII. to a "Critique of Hedonism"; Chapter IX. to "The Highest Good"; Chapter X. to "Optimism versus Pessimism"; and Chapter XI. to "Character and Freedom."

PHILOSOPHY OF HISTORY. An Introduction to the Philosophical Study of Politics. By *Alfred H. Lloyd*. Ann Arbor: George Wahr, Publisher. 1899. Pages, 250, iv.

The present little volume grew out of Professor Lloyd's work with students of political philosophy and the philosophy of history. He regards it as only a preparation for something more extensive and profound upon the subject. and has published it chiefly for the use of his own students. Our remarks upon it, therefore, may be brief and may be confined to his own statement of his own case. He attempted upon a prior occasion to formulate his views of history in a little work bearing the title *Citizenship and Salvation*, published by Little, Brown & Co., of Boston,—a book treating eloquently and enthusiastically of the rôle which Greece, Rome, Judæa, and the ideal Christian state have played in the development of civilisation,—and he believes that his newest publication, which we are now considering, will be of considerable help to the understanding of the older volume. Prefacing his investigations by a philosophical investigation of the data of history, viz., time, causation, nature, individuality, and progress, he takes up in Part II. of the book the subject of "Society and Social Change," and in Part III. historical studies of "Reason and Religion," "Good and Evil," "Revolution," and "The Great Man."

His summary of his views reads literally as follows: "History is the liberation of human society, as an organism organically related to nature, in its own realised law. Realisation of the law is through the development of individuals, nations and persons, with all the incidents of alienation and restoration, of evil and good, of science and religion, of talent and genius, that have been found to be involved. And the individuals developed are agents of a genuine progress, since the very essence of individuality is at once adaptation or fulfilment of the past and realisation of the future."

The moral of his reflexions he has formulated in the following words: "History is no mere logical scheme. It is no body of knowledge to be learned and recited. It is no entertaining story to be read and then forgotten or, if perhaps remembered, retained as but the tool of some teacher's trade or the ornament of

some gentleman's culture. And, finally, it is no fatal process external to human passion and human will. But what is it then?

"History is the experience, the very life itself, which we call our own. To adopt the familiar formula of the sages of the East: The history of human society —*that art thou!* Its past? No. Its future? No. What? Its living, all-including present."

CONTEMPORARY THEOLOGY AND THEISM. By *R. M. Wenley, D. Phil.* (Glasgow); Professor of Philosophy in the University of Michigan; formerly Lecturer on Philosophy in the University of Glasgow. New York: Charles Scribner's Sons. 1897. Pages, x, 202. Price, $1.25.

Professor Wenley always writes books that are worth reading, and the present volume is no exception to the personal rule which he has established. In 1894, the members of the Glasgow University Theological Society invited him to occupy the Honorary Presidency of their association, in which capacity it became his duty "to deliver an address on certain aspects of contemporary theological inquiry." Hence the title and hence also the occasion of the book to which we now call the attention of our readers.

Until recently,—we are summarising Professor Wenley's introductory remarks,—the impression generally prevailed that theology was a dry and uninteresting subject. It is not, however, too much to say that this impression has now been fully effaced. In fact, "to-day each of the several departments of theology demands a scientific training, and so the preparation for any one contributes to the best kind of education; while theology proper is, perhaps, only equalled by speculative biology in the interest which surrounds its most pressing problems. Thought has been ceaselessly moving, and we have arrived at the stage when a new departure seems highly probable—a departure that cannot but be fraught with deep import to the moral and spiritual life of the generation in which we live."

In support of this statement, Professor Wenley points to the renewed attention which is being bestowed upon questions connected with the interpretation of religion, especially of Christianity, as evidenced in the Gifford foundation of the Scottish University, the Hibbert Lectures at London and Oxford, and the lectures provided by the Ely and other foundations in the United States. He then briefly sketches the development of theological thought for the last two hundred years, from the rationalists and supernaturalists of the eighteenth century, through their vanquishers, Kant and Schleiermacher, the philosophical dominancy of Hegel, and the period of Strauss, down to the eclectic tendencies of the mid-century period. Here Rothe and F. C. Bauer appeared. These two men and their followers furnished the starting-point for the modern theories. "Theology proper, in the classical speculative line, then came to have a new Left and a new Right. Biedermann, Keim, Weizsäcker, and Otto Pfleiderer are chief representatives of the one; Dorner and Beyschlag, with whom we may, perhaps, name Bernhard Weiss, are associated

with the other. Both parties maintain what is practically a composite scheme —the former being swayed most by the results of speculative interpretation and historical criticism, the latter by the desire for systematic statement of religious doctrine, as it affects man personally. The one, in short, emphasises the objective, the other the subjective aspect of theology."

Yet, in spite of the inconsistencies presented by these writers they at least agreed on the essential point of having derived their philosophy from a common source, and they accordingly combined "to show a solid front against that now influential theological school which has sprung up within the last twenty-five years under the leadership of Albrecht Ritschl. This, which may be termed the theology of the end of the century, has adopted different premises. It derives largely from the sceptical factor in Kant, and from the empiricism of the scientific movement, to some extent from the epistemology of Lotze, and to a lesser degree from the subjective theology of Schleiermacher. Broadly, then, these two parties confront one another. They have their serious internal differences—as between Pfleiderer and Weiss, or between Herrmann and Bender—but these are comparatively trivial as compared with the gulf fixed between the two schools as a whole. Accordingly, it must be our effort to understand the doctrines and aims of each, if we are to apprehend the problems with which at this moment theology is face to face."

The nature of Professor Wenley's task will be apparent from these quotations. The progress of theology in Germany, as thus indicated, is found to have its analogies in Britain and America, and along this parallel historical line of thought the discussions of the two chapters on "Speculative Theology" and "Ritschlian Theology" are developed. In the concluding chapter on "The Theistic Problem," Professor Wenley focusses the results of his historical and critical researches in a conservative interpretation of the idea of God from the modern scientific point of view.

LA LUTTE DES CLASSES EN FRANCE (1848–1850). LE XVIII BRUMAIRE DE LOUIS BONAPARTE. By *Karl Marx*. Translated by Léon Remy. Paris: Schleicher Frères. 1900. Pages, v, 362. Price, 3 francs 50.

Marx's *Struggle of the Classes in France in the Years 1848–1850*, which now appears in a French translation as the latest volume of the International Library of Sociological Sciences, was originally published in 1850 as a series of articles in the *Neue Rheinische Zeitung* of Hamburg. Five years ago it was put into book form by the publishers of the *Vorwärts*, of Berlin, and supplied with a preface by F. Engels.

Marx composed his work in London, in 1849–1850, during the first days of his exile, after his expulsion from France by the order of Guizot. It was the first attempt, as Engels remarks in his preface, which Marx made to explain by the aid of his materialistic philosophy a fragment of contemporary history viewed entirely as an expression of the economic situation. Marx was here bent upon establishing

beyond the shadow of a doubt the principle that political events were in their last analysis nothing more than the logical product of economical causes. From the point of view of economic and social *history*, the work is therefore an important one. Whatever be the general opinion as to the soundness of his doctrines, the acuteness of Marx's reasoning, the profundity of his knowledge and his sagacious insight into certain phases of the economic world have never been denied. The French translation of M. Remy, for precision and faithfulness, leaves little to be desired. The same volume contains Marx's companion study of the causes of the *coup d'état* of Louis Bonaparte, on the XVIII *Brumaire*.

THE CONCEPTION OF IMMORTALITY. The Ingersoll Lecture for 1899. By *Josiah Royce*, Professor of the History of Philosophy at Harvard University. Boston and New York: Houghton, Mifflin & Co. 1900. Pages, 91. Price, $1.00.

Professor Royce is sorely troubled with the problem of "individuality." He says: "The question as to the nature of an individual man is at once a problem of logic and an issue of life. . . . What is it that makes *any* real being an individual? . . . Like all the central problems of Logic, this one really pulsates with all the mystery of life. . . . The chief mystery about any man is precisely the mystery of his individual nature, i. e., of the nature whereby he is this man and no other man. . . . The only solution of this mystery lies in conceiving every man as so related to the world and to the very life of God, that in order to be an individual at all a man has to be very much nearer to the Eternal than in our present life we are accustomed to observe." This, and it could not be more precisely stated, is Professor Royce's philosophy of immortality in a nutshell. It is unnecessary to follow him in his arguments. They begin with mystery and end with mystery. Professor Royce does not for a moment pretend "to guess by what processes this individuality of our human life is further expressed, whether through many tribulations as here, or whether by a more direct road to individual fulfilment and peace. I know only that our various meanings, through whatever vicissitudes of fortune, consciously come to what we individually, and God in whom alone we are individuals, shall together regard as the attainment of our unique place, and of our true relationships both to other individuals and to the all-inclusive Individual, God himself. Further into the occult it is not the business of philosophy to go. My nearest friends are already occult enough for me. I wait until this mortal shall put on—Individuality." And so ends his catechism. It has many noble questions and many exalted answers, but there is an ontological "reach" to its arguments which many will deem matter of surplusage, and which, while it gives to them the semblance of profundity, adds nothing to their intrinsic force. We are, in fact, distinctly reminded in reading this beautiful little book by Professor Royce of the theological philosophy of Jacob Böhme, and of that great thinker's famous solution of the problem of God, which he formulated in the question, *Wie muss der*

Mensch beschaffen sin, der Gott schauen will? and resolved in the sonorous and meaning-laden answer: *Der muss tot sin.* μκρκ.

LE POUVOIR ET LE DROIT PHILOSOPHIE DU DROIT OBJECTIF. By *Ladislas Zaleski.* Professor in the University of Kazan. Translation by Mlle. A. Balabanoff. Paris: Schleicher Frères. 1899. Pages, 94. Price, 3 francs.

Recent years have witnessed a renaissance of juridical studies, particularly in their general relationship to ethics, sociology, and political economy, and it is not too much to say that the time is not far distant when even in our country the exposition of the principles of jurisprudence will be taken entirely from the hands of narrow-sighted practitioners and dogmatic theorists, and entrusted to the care of jurisconsults of genuine scientific culture. Professor Zaleski's little work is an indication of the direction in which events in this department are moving, and it is therefore not without importance to students of jurisprudence and sociology. It is in the nature of a supplement to the theories of Aguilera and Fouillét, and contains clear *résumés* of certain important German doctrines which are little known to the general body of students. M. Zaleski is a professor in the University of Kazan, Russia, and the simple and precise translation of Mlle. Balabanoff has placed the results of his reflexions, whatever they may be worth, within the reach of European and American readers.

SOME PROBLEMS OF LOTZE'S THEORY OF KNOWLEDGE. By *Edwin Proctor Robins, M. A.*, Late Scholar and Fellow of Cornell University. Edited with a Biographical Introduction by J. E. Creighton. New York: The Macmillan Company. 1900. Pages, 108.

We learn from the introduction to the present monograph, written by Professor Creighton, that it was intended as a dissertation for the degree of Doctor of Philosophy from Cornell University, and that its author, Mr. Edwin Proctor Robins, who held a fellowship in the Sage School of Philosophy, died after an illness of three days, having nearly completed his twenty-seventh year. We are also informed that its aim is "sympathetically to interpret the spirit of Lotze's system as a whole —to do justice to the philosopher by taking him at his best rather than to exhibit the literal inconsistencies of his system." The book will unquestionably be of value to those who are desirous of studying Lotze's system, which is discussed here in three chapters bearing the following titles: I. Problem and Method; II. The Appearance of Reality; and III. Reality and Knowledge.

ESSAIS SUR LA PHILOSOPHIE DES SCIENCES. Analyse—mécanique. By *C. de Freycinet*, de l'Institut. Deuxième édition. Paris: Gauthier-Villars, Imprimeur-Libraire. 1900. Pages, 336. Price, 6 francs.

It is clearly indicative of the growing interest taken in the philosophy of science that the present second edition of M. Freycinet's work should have appeared four

years after the original publication. The book contains changes of some importance, the chief of which is the greater emphasis the author has laid upon his presentation of the notions of "work" and "living force." He asserts furthermore that after a careful revision of the facts of the case he still remains convinced that it was Kepler who first discovered the law of inertia, and that Galileo, whose glory is in no wise diminished by the fact, did nothing more than to render it precise and to develop its consequences. Although M. Freycinet's work was reviewed at some length in Vol. III. of *The Monist*, it may not be out of place to epitomise again a specimen of his discussions, and we shall select for this purpose two passages relating to the concepts "quantity of matter" and "mass" often identified in physical text-books, and to M. Freycinet's novel notion of "dynamic capacity."

The concept of "mass" describes certain facts; "quantity of matter" by its long historic and broad metaphysical content, stands for many things. It either must be identified with mass or it must be re-defined. That this is necessary, may be shown by the following extract from M. Freycinet, who, after speaking of the different forces requisite to induce the conventional velocity of ten metres a second in a cubic decimetre of water and in a cubic decimetre of lead, says:

"It would be hazardous to conclude that the cubic decimetres in question contain more or less matter. It may be that the number of indivisible elements of the water is the same as the number of indivisible elements of the lead, or of mercury, or of platinum, and that each of these elements has an equal volume. It is also possible that the number of the elements is different, but as to volume, inversely different, so that the absolute volume of the matter water contained in a cubic decimetre is equal to the absolute volume of the matter lead, mercury, or platinum. Under such conditions, how can we assert that the quantity of matter of the one is greater than the quantity of matter of the other? The sole justifiable affirmation is that the matter water does not comport itself with regard to forces in the same way that the matter lead, mercury, or platinum does. In other words, water, lead, mercury, etc., *absorb* at the same volume different quantities of force or impulses in order to take on the same movement."

The elastic, indefinite character of the notion "quantity of matter" is obvious from this quotation, and it admits of even other conceptions, which vitiates utterly its supposed aid in elucidating the concept of mass.

The concluding part of the statement of M. Freycinet, which involves a comparison of the dynamical with the thermal relations of bodies, is important. M. Freycinet speaks of bodies absorbing *force* as bodies absorb *heat*. Different bodies absorb different quantities of heat in being raised one degree of temperature and so different bodies absorb different quantities of force in taking on the same unit of velocity. If the first is called the thermal capacity of a body, the second may be called its *dynamic capacity*. The difference is that the thermal capacities vary with the temperature, while the dynamic capacities do not vary with the velocities. Analogously to the old conception of heat, force may be here conceived as a

substance which passes from one body to another just as heat was formerly supposed to pass and as energy is now supposed to pass.

The idea of M. Freycinet belongs to a domain of criticism which Professor Mach has called "comparative physics" and which, by showing what form our knowledge *might* have taken had we begun at different starting-points, is destined to throw much light upon the fundamental nature of physical notions. μ.

SCIENTIA. Exposé et développement des questions scientifiques à l'ordre du jour. Recueil publié sous la direction de *MM. Appell, Cornu, d'Arsonval, Friedel, Lippmann, Moissan, Poincaré, Potier, et MM. Balbiani, d'Arsonval, Filhol, Fouqué, Gaudry, Guignard, Marey, Milne-Edwards.* Chaque fascicule comprend de 80 à 100 pages in-8° écu, avec cartonnage spécial. Prix du fascicule: 2 francs. Paris: Georges Carré & C. Naud.

The attractive series of scientific monographs now published periodically under the title of *Scientia* by Georges Carré and C. Naud, of Paris, with the editorial assistance of the most prominent scientists of France, supplies a genuine want in serious literature. The results of current research, as recorded in the technical periodicals, are for the most part disconnected and fragmentary, and thus difficult to reach as a totality. The idea of a series of publications, therefore, which shall put these results into compact and systematic form, accompanied by critical comments, is a commendable one. But not only are the numbers of this series brief and logical *résumés* of the most important of recent discoveries in physics, chemistry, mathematics, and biology; they are also expositions of the philosophical ideas controlling research in these different fields, and of the variations of scientific evolution generally. To students who are not determined to specialise absolutely, they, or something equivalent to them, are indispensable. They are also of the nature of a retrospect and horoscope of science combined, showing the past, the present, and as nearly as possible the future, of each new acquisition, the equilibrium of thought which it has destroyed or established, the deviation of effort which it has induced, the new horizons which it has opened, the sum total of intellectual progress which it represents. Of such a character, for instance, is the memoir on *Maxwell's Theory and Hertz's Oscillations*, by Poincaré, which summarises from the physical point of view researches which now occupy a large place in the public attention. Such also is the memoir upon *Stereo-chemistry* by P. Freundler, which gives a critical epitome of a very prolific and important department of thought, in which much confusion has latterly reigned. Similar in the department of mathematics is the essay on *Elimination* by H. Laurent, which is the first complete treatment of the subject since 1859, and which offers a digest of all the methods now known, in addition to giving some new discoveries of the author.

Scientia is divided into two sections: (1) a physical-mathematical section, and (2) a biological section. The following, in addition to those mentioned above, are the memoirs which have already appeared in the first section: *Les mouvements de*

roulement en dynamique, by P. Appell; *Le phénomène de Zeemann*, by A. Cotton; *La stéréochimie*, by P. Freundler; *Les terres rares*, by A. Job; *Détermination de l'Ohm*, by G. Lippmann; *Le magnétisme du fer*, by Ch. Maurain; *La théorie de Maxwell et les oscillations hertziennes*, by H. Poincaré; *Les nouveaux gaz*, by Raveau; *Les rayons cathodiques*, by Villard; *Groupements cristallins; propriétés optiques*, by Wallerand; and *L'élimination*, by H. Laurent. The following are the works which appear in the biological section: *La coagulation du sang*, by M. Arthus; *La spécificité cellulaire*, by L. Bard; *Mouvements orogéniques et déformations de l'écorce terrestre*, by M. Bertrand; *Les actions moléculaires dans l'organisme*, by H. Bordier; *L'irritabilité dans la série animale*, by Courtade.

ÉTAT ACTUEL DE NOS CONNAISSANCES SUR L'ORIGINE DE L'HOMME. Mémoire Présenté au 4e Congrès international de Zoologie à Cambridge le 26 août 1898. Augmenté de remarques et de tables explicatives. By *Ernest Haeckel*, Professor in the University of Jena. Paris: Schleicher Frères. 1900. Pages, 62. Price, 2 francs.

Forty years have elapsed since the publication of Darwin's first works upon the theory of evolution, during which time enormous progress has been made in our knowledge of both nature and mind. The intellectual framework of nearly every science, and especially of physiology, psychology, and philosophy, has been transformed by the evolutionist doctrine. At the beginning it met with the bitterest opposition; in the second decade it was the subject of violent discussions and its advocacy was nearly always one of hesitancy; in the third decade there were the marks of the progressive victory of Darwinism in all departments of biology; and in the fourth decade, finally, the truth of the theory was definitively accepted by all competent naturalists. It may be affirmed, in fact, that Darwinism and the theory of evolution to which it belongs, together with the law of the conservation of matter and of energy and the cellular theory, are the most brilliant achievements of the declining century.

Such is the broad field of intellectual advancement centering about the characteristic problem which the famous German naturalist has examined in this publication. It was read as a memoir at the fourth International Congress of Zoölogy held in Cambridge, in August, 1898. Its subject, *The Present State of our Knowledge of the Origin of Mankind*, was unanimously suggested to Professor Haeckel as the one most fitting for him to present. Its conclusions were received by the naturalists of the congress with almost universal assent, the only difference in opinion being on the hypothetical number of years which have elapsed since the appearance of organic life on the earth; and the approbation of the general reading public was such that in its subsequent German form it ran in less than two years through seven editions. It is brief, as well as clearly and fluently written, and in its French form will find many readers who are not acquainted with German.

DIE PRINCIPIEN DER WÄRMELEHRE HISTORISCH-KRITISCH ENTWICKELT. By *Dr. E. Mach*, Professor in the University of Vienna. Second edition. Leipsic: Verlag von Johann Ambrosius Barth. 1900. Pages, xii, 484.

In its second edition, Mach's *Principles of the Theory of Heat, Historically and Critically Considered*, has not undergone radical modification. But three years having elapsed since the appearance of the first edition,—a gratifying indication of the success and worth of the work,—nothing more has been attempted in the way of alteration than the insertion of a few short supplementary and expansive passages. A decided improvement in the appearance of the book has been made through the substitution of several new portraits of physical inquirers for old ones which appeared in the first edition, as well as through the typographical revisions to which the book has been subjected and the addition of an index. Professor Mach pays a handsome tribute to the memory of the late Judge B. Stallo, the author of the well-known work *The Concepts of Modern Physics*, and formerly United States Minister to Italy, by dedicating to him the present edition of his book. Professor Mach became acquainted with Judge Stallo's work only recently, and the coincidence of aim and contents between his own critical expositions of science and those of Judge Stallo have been both pleasing and cogent confirmations of the general attitude adopted by both. A rather full analytical review of Professor Mach's work appeared in Vol. VII., page 463, of *The Monist*. The essays contained in it are extremely important, both from a philosophical and scientific point of view, and it may be of interest to the readers of *The Monist* to learn that translations of some of these essays are now appearing in the current numbers of *The Open Court*.

WORLD'S CONGRESS ADDRESSES. By *The Hon. Charles Carroll Bonney*. Chicago: The Open Court Publishing Company. 1900. Pages, 88. Price, 15 cents (9d.).

By universal acknowledgment the Parliament of Religions was from every point of view the crowning achievement of the World's Columbian Exposition held in Chicago in the year 1893. The department of Religion, which was one of the twenty great groups in which congresses were held, embraced forty-six general divisions, including the Parliament of Religions proper. In announcing the plans of the religious congresses, the object in view was proclaimed in the title-page of the announcement in these words:

"To unite all religion against all irreligion; to make the Golden Rule the "basis of this union; to present to the world in the Religious Congresses to be "held in connexion with the Columbian Exposition of 1893, the substantial unity "of many religions in the good deeds of the religious life; to provide for a World's "Parliament of Religions, in which their common aims and common grounds of "union may be set forth, and the marvellous religious progress of the nineteenth "century reviewed; and to facilitate separate and independent Congresses of dif-

"ferent religious denominations and organisations, under their own officers, in "which their business may be transacted, the achievements presented and their "work for the future considered."

The purpose of inviting the different religious denominations to hold separate and independent congresses was to avoid the appearance of any attempt to induce them to surrender their distinctive characteristics and in this way to enable them to participate conscientiously in the great union congress which was called the World's Parliament of Religions. Of many of the addresses delivered by President Bonney during the World's Congress season, no record was preserved, but enough have been found to present quite fully the principles which governed the World's Congress work. The most important of these are the addresses of welcome to the religious denominational congresses, which have been collected to form the present work, published as a memorial of the events of the Columbian year. They show clearly the spirit by which the representatives of all the world's religions were induced to give their concurrence and aid to the work of the Parliament, and they also indicate the secret of the marvellous unanimity displayed on that occasion. The addresses contained in the volume are eighteen in number.

THE GOSPEL ACCORDING TO DARWIN. By *Dr. Woods Hutchinson*. Chicago: The Open Court Publishing Company. 1900. Pages, 241. Price, cloth, $1.50 (6s.); paper, 50 cents (2s. 6d.).

Few more eloquent books treating of the ethical and religious significance of modern science have been written than *The Gospel According to Darwin*, by Woods Hutchinson. It is thoroughly imbued both with the spirit of science and with the spirit of true religion, and no one who has truth and sincerity at heart, whatever be his belief, can rise from its perusal without a distinct feeling of ethical and intellectual exaltation.

"It is in no sense the purpose of this little volume," says the author, "to furnish a system of ethical or religious thought, or the germ of a new religion, as perhaps its title might lead some to infer, least of all to enunciate truths which are original with, or peculiar to, its author. It is merely an attempt to get a bird's-eye view of a few of the influences affecting human hope and human happiness from the standpoint of that view of and attitude towards the universe which is best expressed by the term Darwinism.

"Its effort is to show that this attitude possesses a broad and secure basis for courage and happiness in the present and hope for the future. In other words, that its faith is as steadfast, its 'consolations' as great, and its spirit of worship as profound and as powerful as those of revealed religion. That the message of the gospel according to Darwin, is in truth 'good news,' 'glad tidings'; that the natural is as wonderful, as beautiful, as divine, as the supernatural.

"Far from destroying or antagonising the religious instinct, the spirit of worship, Darwinism broadens and quickens it. But while recognising its wonderful

value, and according it a high rank in the parliament of instincts, it absolutely declines to recognise it as perpetual dictator.

"Religion is but one of several great influences which make up human life and determine human conduct. Like any other instinct, indulged in the proper place, it is beneficent, ennobling in its results; but carried into spheres where it has no authority, it becomes injurious and degrading. Darwinism has no quarrel with religion, only with its excesses."

The titles of the chapters of the book are as follows: I. The Fifth Gospel; II. The Omnipotence of Good; III. The Holiness of Instinct; IV. The Beauty of Death; V. Life Eternal; VI. Love as a Factor in Evolution; VII. Courage the First Virtue; VIII. The Strength of Beauty; IX. The Benefits of Overpopulation; X. The Duty and Glory of Reproduction and Economics of Prostitution; XI. The Value of Pain; XII. Lebenslust. Many of these abound in passages of great vigor and beauty, notably Chapters IV., V., VI., VIII., XI., and XII.

GESCHICHTE DES UNENDLICHKEITSPROBLEMS IM ABENDLÄNDISCHEN DENKEN BIS KANT. By *Jonas Cohn, Dr. phil.* Leipsic: Verlag von Wilhelm Engelmann. 1896. Pages, 261. Price, 5 Marks.

Notice of the present work has been accidentally delayed. The problems involved in the notion of infinity are of the deepest interest to thinkers, and a presentation of the history of philosophical investigation in this direction will be a welcome addition to the library of all students. Dr. Cohn has set himself a twofold task. In the first place, he has sought to furnish by an analysis of the purely *historical* development of the problem, preliminary material for a thorough *theoretical* treatment of the same; in doing which he has endeavored to ascertain the permanent contributions which each of the more important philosophers has made to the investigation of the problem of infinity, and to trace their evident errors to their sources. And, in the second place, he has sought through an analysis of the motives which have played a part in this development and of the contrarieties and coincidences of thought which have here expressed themselves, to offer a contribution to the psychological comprehension of the history of philosophy. The work is divided into three parts, the first treating of the Grecian philosophy; the second, of the church fathers in the mediæval period; and the third, of modern philosophy prior to Kant.

THE

HISTORY OF THE DEVIL

AND

THE IDEA OF EVIL

FROM THE EARLIEST TIME TO THE PRESENT DAY

BY

DR. PAUL CARUS

Printed in two colors from large type on fine paper.

Bound in cloth, illuminated with cover stamp from Doré. Five hundred 8vo pages, with 311 illustrations in black and tint. Price, $6.00 (30s.).

With numerous illustrations from ancient and modern demonology, as recorded on monuments and in literature.

Offering a complete comparative history and analysis of the idea of evil, with philosophical, ethical, and religious comments.

The author reviews the broad field of the conception of evil among the various nations of the earth. Beginning with prehistoric Devil-worship and the adoration of demon gods and monster divinities, he surveys the beliefs of the Summero-Accadians, the Persians, the Jews, the Brahmans, the Buddhists, the early Christians, and the Teutonic nations. He then passes to the demonology of the Middle Ages, the Reformation, and modern times, discussing the Inquisition, witchcraft, and the history of the Devil in verse and fable. The philosophical treatment of the subject is comparatively brief, but the salient points are clearly indicated in every connexion. The pictures are numerous, and will aid considerably the reader's comprehension.

No expense has been spared to make the book exemplary in every respect.

CHICAGO

THE OPEN COURT PUBLISHING COMPANY

324 DEARBORN STREET

LONDON

KEGAN PAUL, TRENCH, TRÜBNER & Co. (Ltd.), Paternoster House, Charing Cross Road

YEARLY SUBSCRIPTIONS
$3 or 12 s. post-free

MIND

SINGLE NUMBERS
Price, $1.00

(NEW SERIES)

A QUARTERLY REVIEW OF PSYCHOLOGY AND PHILOSOPHY

Edited by G. F. STOUT.

With the co-operation of

PROF. H. SIDGWICK, PROF. E. CAIRD, DR. WARD (England), and PROF. E. B. TITCHENER (U. S. A.)

MIND is the only periodical which represents the interests of Psychology and Philosophy in England. Its general aim is to afford a vehicle for the expression of all that is most original and valuable in current English thought, without distinction of School or Department of Philosophical Inquiry.

Each number contains one hundred and forty-four pages. Of these nearly one hundred are occupied by original articles. Under the head *Discussions* follow short papers on current topics of controversy, suggested for the most part by articles or reviews which have previously appeared in MIND. In each number at least three books are selected to receive full *Critical Notice*, by experts in the subject of which they treat; while under the head **New Books** is given a general account of the aim and contents of all recently published works of any importance which come within the scope of the *Review*. Between twenty and thirty books receive notice in each issue. There also appears, under the head of **Philosophical Periodicals,** a list of the titles and an indication of the contents of the articles in the leading philosophical journals, English and Foreign, with a fuller notice of those which appear to be of special importance. **Notes** on recent researches and current news conclude each number.

All literary communications from Europe should be addressed to G. F. Stout, University, Aberdeen, Scotland. Unaccepted Manuscripts cannot be returned unless stamps are inclosed for postage.

Correspondence from American readers relating to advertising and subscriptions should be addressed to G. E. Stechert, 9 East Sixteenth Street, New York, all other communications to Professor E. B. Titchener, Cornell University, Ithaca, N. Y.

Among recent contributors to MIND may be mentioned: Professor Adamson, B. Bosanquet, F. H. Bradley, Professor Baldwin, Francis Galton, Shadworth H. Hodgson, L. T. Hobhouse, W. E. Johnson, Henry Rutgers Marshall, Dr. Colley March, Prof. J. S. Mackenzie, J. E. McTaggart, Rev. H. Rashdall, Dr. Rivers, Hon. B. A. W. Russell, F. C. S. Schiller, Alfred Sidgwick, Prof. H. Sidgwick, Professor Sorley, A. F. Shand, Prof. W. G. Smith, Prof. E. B. Titchener, Prof. James Ward, Dr. Wallaschek and Dr. Westermarck.

Published in Europe by

WILLIAMS AND NORGATE.

EDINBURGH: 20, South Frederick Street. LONDON: 14, Henrietta Street, Covent Garden. OXFORD: 7, Broad Street.

Sole Agent in America: GUSTAV E. STECHERT,

9 East Sixteenth Street, New York.

Philosophical and Psychological Portrait Series.

Suitable for framing and hanging in public and private libraries, laboratories, seminaries, recitation and lecture rooms.

The portraits, which are 11 x 14 in., have been taken *from the best sources*, and are high-grade photogravures. The series is now complete.

KANT. (*Original 11×14 in.*)

Philosophical:

PYTHAGORAS	SPINOZA	HEGEL
SOCRATES	LOCKE	SCHLEIERMACHER
PLATO	BERKELEY	SCHOPENHAUER
ARISTOTLE	HUME	HERBART
EPICTETUS	MONTESQUIEU	FEUERBACH
THOMAS AQUINAS	VOLTAIRE	LOTZE
ST. AUGUSTINE	D'ALEMBERT	REID
AVERRHOES	CONDILLAC	DUGALD STEWART
DUNS SCOTUS	DIDEROT	SIR W. HAMILTON
GIORDANO BRUNO	ROUSSEAU	COUSIN
BACON	LEIBNITZ	COMTE
HOBBES	WOLFF	ROSMINI
DESCARTES	KANT	J. STUART MILL
MALEBRANCHE	FICHTE	HERBERT SPENCER
SCHELLING		

Psychological

CABANIS	MACH	ROMANES
MAINE DE BIRAN	STUMPF	PAUL JANET
BENEKE	EXNER	RIBOT
E. H. WEBER	STEINTHAL	TAINE
FECHNER	BAIN	FOUILLEE
HELMHOLTZ	SULLY	BINET
WUNDT	WARD	G. STANLEY HALL
HERING	C. L. MORGAN	G. T. LADD
AUBERT		

To Subscribers:

TERMS: For *the whole series* (68 portraits) on *regular paper, $7.50* (*35s.*); on *heavy Imperial Japanese paper, $11* (*50s.*).

The Philosophical Series, 43 portraits, Imperial Japanese paper, $8.75 (40s.); the same on the best plate paper, $6.25 (30s.). The Psychological Series, 25 portraits, on Imperial Japanese paper, $5.00 (24s.); the same on the best plate paper, $3.75 (18s.). (The higher prices in parentheses refer to foreign countries. Carriage prepaid.) Single portraits on regular paper, 25 cents.

For subscribers who may prefer not to frame the portraits, *a neat portfolio* will be provided at a cost of $1.00 additional.

HOBBES. (*Original 11×14 in.*)

"I have received the first instalment of the series of portraits of philosophers, and am very much pleased with them."—*Prof. David G. Ritchie*, St. Andrews, Scotland.

"I congratulate you on the magnificent character of the portraits, and I feel proud to have such adornments for my lecture room."—*J. J. McNulty*, Professor of Philosophy in the College of the City of New York.

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co. (Ltd.).

GEORG REIMERS VERLAG

BERLIN W. 35, LÜTZOWSTRASSE 107/8.

Kants gesammelte Schriften. Herausgegeben von der *Königlich Preussischen Akademie der Wissenschaften* zu Berlin.

Diese Ausgabe von Kants gesammelten Schriften strebt die vollständige und reinliche Darbietung alles von Kant Erhaltenen an. Sie will dasselbe einerseits dem philosophisch gebildeten Leser zugänglich und benutzbar machen, anderseits der dem Leben und der Lehre Kants gewidmeten Forschung das für sie notwendige Material erschliessen. Die Ausgabe zerfällt in 4 Abteilungen:

I. Werke. II. Briefwechsel. III. Handschriftlicher Nachlass. IV. Vorlesungen,

und umfasst 22 bis höchstens 25 Bände. Es ist das Erscheinen von 2—3 Bänden alljährlich in freier Folge beabsichtigt; zunächst gelangen Briefwechsel und Werke zur Veröffentlichung. Jede Abteilung, sowie jeder Band der Ausgabe wird einzeln käuflich sein, doch bitte ich in beiderseitigem Interesse, Kontinuationsliste anzulegen.

Als erster Band erschien vor Kurzem:

BAND X., **Briefwechsel, Band 1.** 1747 bis 1788.
Preis, broschirt, 10 Mark; in Halbfranz gebunden 12 Mark.

Als zweiter Band der ganzen Reihe erschien soeben:

BAND XI., **Briefwechsel, Band 2.** 1789 bis 1794.
Preis, broschirt, 10 Mark; in Halbfranz gebunden 12 Mark.

Prospect über das Gesammtwerk gratis und franco.

Kants Kritik der reinen Vernunft. Herausgegeben von *Benno Erdmann.* Fünfte durchgesehene Auflage. Preis, broschirt, 4 M., in Halbfranz gebunden 5 M.

Beiträge zur Geschichte und Revision des Textes von Kants Kritik der reinen Vernunft. Anhang zur fünften Auflage der Ausgabe von *Benno Erdmann.* Preis 2 M.

Geschichte der Königlich Preussischen Akademie der Wissenschaften zu Berlin. Im Auftrage der Akademie bearbeitet von *Adolf Harnack.* Drei Bände. 150 Bogen Lexikon-Oktav mit 8 Porträts. **Preis** 60 M.

AMERICA'S MOST POPULAR RAILROAD

C&A C&A C&A C&A

CHICAGO AND ALTON RAILROAD.

C&A C&A C&A C&A

PERFECT PASSENGER SERVICE BETWEEN

CHICAGO AND KANSAS CITY.
CHICAGO AND ST. LOUIS.
CHICAGO AND PEORIA.
ST. LOUIS AND KANSAS CITY.

Through Pullman service between Chicago and

HOT SPRINGS, Ark., DENVER, Colo.,
TEXAS, FLORIDA, UTAH,
CALIFORNIA AND OREGON.

If you are contemplating a trip, any portion of which can be made over the Chicago & Alton, it will pay you to write to the undersigned for maps, pamphlets, rates, time-tables, etc.

GEO. J. CHARLTON,
General Passenger and Ticket Agent,
CHICAGO, ILLINOIS.

MAP AND TIME TABLE

WILL SHOW WHY WE GIVE YOU

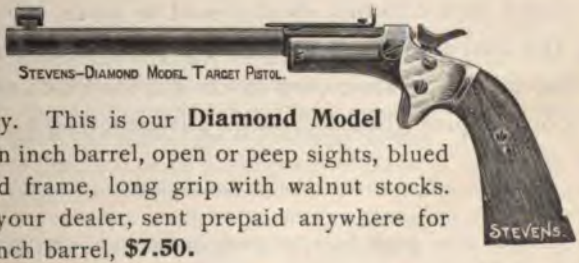
QUICK SERVICE AND POLITE ATTENTION ON THE MONON ROUTE

CHICAGO, INDIANAPOLIS & LOUISVILLE RAILWAY.

FRANK J. REED, Gen. Pass. Agent.
CHAS. H. ROCKWELL, Traf. Mgr.
W. H. Mc DOEL, Pres. and Gen. Mgr.
CHICAGO.

Stevens Rifles and Pistols

have been famous for years because of their accuracy, safety and durability. This is our **Diamond Model** made with six or ten inch barrel, open or peep sights, blued barrel, nickel-plated frame, long grip with walnut stocks. If not carried by your dealer, sent prepaid anywhere for **$5.00.** With ten-inch barrel, **$7.50.**



STEVENS-DIAMOND MODEL TARGET PISTOL.

Send stamp for our complete catalogue and handbook of information. We make several hundred styles of arms.

J. Stevens Arms & Tool Co.
P. O. BOX 1938,
CHICOPEE FALLS, MASS.

THE PHYSICAL REVIEW.

A JOURNAL OF EXPERIMENTAL AND THEORETICAL PHYSICS.

CONDUCTED BY

EDWARD L. NICHOLS, ERNEST MERRITT, and FREDERICK BEDELL.

Two volumes of THE PHYSICAL REVIEW are published annually, these volumes beginning in July and January, respectively, and containing at least five numbers each. The price of subscription is two dollars and fifty cents a volume (five dollars a year), or fifty cents a number. Subscriptions should be sent to the publishers, THE MACMILLAN COMPANY, *66 Fifth Ave., New York;* Messrs. MACMILLAN & CO., LTD., *London;* or to Messrs. MAYER & MUELLER, *Berlin.*

Previous to Volume V. (July-December, 1897), THE PHYSICAL REVIEW was published in annual volumes, each containing six bi-monthly numbers, beginning with the July–August number, 1893. These may be obtained from the publishers at the former subscription price, three dollars per volume.

Correspondence relating to contributions should be addressed to the editors, at *Ithaca, New York.*

Manuscript intended for publication in THE PHYSICAL REVIEW must be communicated by the author; when publication in other journals is contemplated, notice to this effect should be given.

The authors of original articles published in the REVIEW will receive one hundred separate copies in covers, for which no charge will be made; additional copies when ordered in advance, may be obtained at cost.

PUBLISHED FOR CORNELL UNIVERSITY.

THE MACMILLAN COMPANY,

NEW YORK.

The Principles of Bacteriology

By DR. FERDINAND HUEPPE
Professor of Hygiene in the University of Prague

Translated from the German and annotated by *Edwin O. Jordan*, Ph. D., Assistant Professor of Bacteriology in the University of Chicago. 28 Cuts. Five Colored Plates. Pages, 465. Price, $1.75 (9s.).

Invaluable Information for the Physician, Scientist, and General Reader.

Bacteriology is now in a state of transition. From having been descriptive and classificatory, it is now becoming a genuinely organised body of scientific knowledge, with its own principles, its own methods, and independent powers of scientific inference. Dr. Hueppe's book represents this latest phase of development. He seeks to give to his science a critical and logical setting, and to free it from all metaphysics. It is on its philosophical character, in fact, that the greatest emphasis must be laid. The book is new, just translated, and may be regarded as the only rigorous and strictly scientific introduction to bacteriology yet written.

Press Commendations of the Original.

"Those who have already followed Professor Hueppe through his 'Methods' and through his 'Forms of Bacteria' will be quite prepared to find here a philosophical treatment of bacteriology such as has seldom been attempted; in place of a mere repetition of methods and enumeration of species Professor Hueppe has grappled with the fundamental questions concerned and has in clear language given a cogent, philosophical, and scientific account of bacteria and their relations to the processes with which they are said to be associated. . It is the work of a master of the subject, who is not only a scientific man in the sense of being an observer, but also in the sense of having a truly philosophical mind."—*The Lancet*, London.

"Books of bacteriological technique have been somewhat common in recent years but nothing has hitherto appeared which, leaving out laboratory methods and systematic details, gives a summary of the important discoveries of modern bacteriology. . . . To any one who wishes to know what bacteriology has accomplished and what problems are still undergoing solution, nothing can serve better that this outline of Professor Hueppe."

"This work of Professor Hueppe is useful to two classes of readers. Those who are not bacteriologists, but who desire to learn the general facts which the last quarter of a century has discovered, will find here a brief but intelligible summary. Those who are already familiar with the general facts will, perhaps, find the book of even more value in giving a clear and simplified conception of the various confusing facts which have so rapidly accumulated in recent years."—*Science*, New York.

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.
LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

REVUE PHILOSOPHIQUE

DE LA FRANCE ET DE L'ÉTRANGER

Dirigée par TH. RIBOT, Professeur au Collège de France.

(25e année, 1900.)

Paraît tous les mois, par livraisons de 7 feuilles grand in-8, et forme chaque année deux volumes de 680 pages chacun.

Prix d'abonnement:

Un an, pour Paris, 30 fr.—Pour les départements et l'étranger, 33 fr.
La livraison..... 3 fr.
Les années écoulées, chacune 30 francs, et la livraisons, 3 francs.

La Revue philosophique n'est l'organe d'aucune secte, d'aucune école en particulier.

Tous les articles de fond sont signés et chaque auteur est responsable de son article. Sans professer un culte exclusif pour l'expérience, la direction, bien persuadée que rien de solide ne s'est fondé sans cet appui, lui fait la plus large part et n'accepte aucun travail qui la dédaigne.

Elle ne néglige aucune partie de la philosophie, tout en s'attachant cependant à celles qui, par leur caractère de précision relative, offrent moins de prise aux désaccords et sont plus propres à rallier toutes les écoles. La *psychologie*, avec ses auxiliaires indispensables, l'*anatomie* et la *physiologie du système nerveux*, la *pathologie mentale*, la *psychologie des races inférieures et des animaux*, les *recherches expérimentales des laboratoires*;—la *logique*;—les *théories générales fondées sur les découvertes scientifiques*;—l'*esthétique*;—les *hypothèses métaphysiques*, tels sont les principaux sujets dont elle entretient le public.

Plusieurs fois par an paraissent des *Revues générales* qui embrassent dans un travail d'ensemble les travaux récents sur une question déterminée: sociologie, morale, psychologie, linguistique, philosophie religieuse, philosophie mathématique, psycho physique, etc.

La Revue désirant être, avant tout, un organe d'information, a publié depuis sa fondation le compte rendu de plus de quinze cents ouvrages. Pour faciliter l'étude et les recherches, ces comptes rendus sont groupés sous des rubriques spéciales: anthropologie criminelle, esthétique, métaphysique, théorie de la connaissance, histoire de la philosophie, etc., etc. Ces comptes rendus sont, autant que possible, impersonnels, notre but étant de faire connaître le mouvement philosophique contemporain dans toutes ses directions, non de lui imposer une doctrine.

En un mot par la variété de ses articles et par l'abondance de ses renseignements elle donne un tableau complet du mouvement philosophique et scientifique en Europe.

Aussi a-t-elle sa place marquée dans les bibliothèques des professeurs et de ceux qui se destinent à l'enseignement de la philosophie et des sciences ou qui s'intéressent au développement du mouvement scientifique.

REVUE HISTORIQUE

Dirigée par G. MONOD

Membre de l'Institute, maître de conférences à l'Ecole normale
Président de la section historique et philologique à l'Ecole des hautes études

(25e année, 1900.)

Paraît tous les deux mois, par livraisons grand in-8° de 15 feuilles et forme par an trois volumes de 500 pages chacun.

Chaque livraison contient:

I. Plusieurs *articles de fond*, comprenant chacun, s'il est possible, un travail complet.—II. Des *Mélanges et Variétés*, composés de documents inédits d'une étendue restreinte et de courtes notices sur des points d'histoire curieux ou mal connus.—III. Un *Bulletin historique* de la France et de l'étranger, fournissant des renseignements aussi complets que possible sur tout ce qui touche aux études historiques.—IV. Une *Analyse des publications périodiques* de la France et de l'étranger, au point de vue des études historiques.—V. Des *Comptes rendus critiques* des livres d'histoire nouveaux.

Prix d'abonnement:

Un an, pour Paris, 30 fr.—Pour les départements et l'étranger, 33 fr.
La livraison ..... 6 fr.
Les années écoulées, chacune 30 francs, le fascicule, 6 francs.
Les fascicules de la 1re année, 9 francs.

FÉLIX ALCAN, EDITEUR, 108 Boulevard Saint-Germain, PARIS, FRANCE.

History of Modern Philosophy in France

BY

LUCIEN LÉVY-BRUHL

Maître de Conférence in the Sorbonne. Professor in the École Libre des Sciences Politiques.

With twenty-three photogravure and half-tone portraits of French philosophers, from rare and classical sources. Also a Bibliography of Modern French Philosophy. Handsomely bound, printed on antique paper, with wide margins. Pp., 500. 8vo. Price, $3.00 (12s.).

"A more attractive book than this it has seldom been our pleasure to read. Paper, type, binding, and especially the portraits, contribute to make a sumptuous volume. But its mechanical perfection is the smallest element of its value. Any one who expects to find this either a dry or an inexact or an incomplete book will be most agreeably disappointed. To every one of competent philosophical knowledge or curiosity, it will prove both instructive and entertaining."—*The Methodist Review.*

"The portraits are admirably reproduced."—*Literature.*

"It is a remarkably handsome volume. . . . The illustrations are truly masterpieces of art."—*Chicago Israelite.*

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co.

A NEW BOOK BY THE DIRECTOR OF THE UNITED STATES BUREAU OF AMERICAN ETHNOLOGY AND SOMETIME DIRECTOR OF THE UNITED STATES GEOLOGICAL SURVEY.

TRUTH AND ERROR

OR

THE SCIENCE OF INTELLECTION

By J. W. POWELL.

Pages, 423. Cloth, gilt top, $1.75 (7s. 6d.).

Important to Psychologists and Students of the Philosophy of Science.

A Highly Original Work on Psychology, dealing largely with Epistemology.

"Major Powell is a versatile, brilliant, patient, and earnest thinker and writer. His volume is burdened with a costly and splendid array of facts. And while this is all true, yet this is not a tithe of the value of the volume. Its intrinsic value is in the systematisation of modern thought. . . . There is a charm in his directness. No qualification, no ambiguity, no affection. 'I hold,' 'I deny,' ring like the strokes of hammer on brazen casque."—*The Washington Post.*

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

Terrestrial Magnetism

AND

Atmospheric Electricity

AN INTERNATIONAL QUARTERLY JOURNAL

Conducted by

L. A. BAUER,
United States Coast and Geodetic Survey,

With the Assistance of

M. ESCHENHAGEN, *Potsdam*
TH. MOUREAUX, *Parc St. Maur*
ADOLF SCHMIDT, *Gotha*
G. W. LITTLEHALES, *Washington*
A. SCHUSTER, *Manchester*
J. ELSTER and H. GEITEL, *Wolfenbüttel*
J. S. AMES, *Baltimore*
A. McADIE, *San Francisco*

Foreign Councillors

A. W. RÜCKER, *England*
W. VON BEZOLD, *Germany*
E. MASCART, *France*
M. RYKATCHEW, *Russia*

American Councillors

H. S. PRITCHETT, *Coast and Geodetic Survey*
T. C. MENDENHALL, *Worcester*
W. B. CLARK, *Johns Hopkins University*
C. A. SCHOTT, *Washington*

With the March, 1900, issue, this Journal, devoted exclusively to Terrestrial Magnetism, Atmospheric Electricity, and allied subjects—such as Earth Currents, Auroras, etc.—entered on its fifth volume. The hearty co-operation extended, and the warm encouragement received from all sides, are the surest proof that the inauguration of this Journal has met a keenly felt want. Doubtless never before has such enthusiastic interest been taken in these most elusive subjects. No one who wishes to keep abreast of the latest and best thought in these comparatively unexplored sciences can afford to be without this Journal.

Every issue contains a fine half-tone portrait of some eminent magnetician or electrician.

A volume begins with the March issue and embraces about 200 large octavo pages. Articles appear in the original language of the author when Roman characters can be used.

Domestic Subscription Price: - - - $2.50 a year.
Foreign Subscription Price: - - - $2.75 a year.

Correspondence relating to subscriptions should be addressed to the **JOHNS HOPKINS PRESS, Baltimore, Maryland.** All other correspondence should be addressed to the **EDITOR, Washington, D. C.**

A First Book in Organic Evolution

An Introduction to the Study of the

DEVELOPMENT THEORY

By D. KERFOOT SHUTE, M. D.

Professor of Anatomy in the Medical Department of the Columbian University, Member of the Association of American Anatomists, Member of the Washington Microscopical Society, etc.

Pages, xvi + 285, 39 illustrations—9 in natural colors. Price, cloth, $2.00 (7s. 6d.).

"It is a presentation of the subject for the general reader which is masterly, clear, and entertaining. A profound subject is thoroughly grasped; a technical subject is made plain; and a complex subject is made simple. I am especially delighted with it as a book for auxiliary reading in the High Schools and Colleges of the country.—*Major J. W. Powell*, Smithsonian Institution, Washington, D. C.

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co.

Buddhism and Its Christian Critics

By *Dr. Paul Carus*. 8vo. Pages, 311. Price, $1.25.

Contents:

THE ORIGIN OF BUDDHISM.
THE PHILOSOPHY OF BUDDHISM.
THE PSYCHOLOGICAL PROBLEM.
THE BASIC CONCEPTS OF BUDDHISM
BUDDHISM AND CHRISTIANITY.
CHRISTIAN CRITICS OF BUDDHISM.

"Every religious man should study other religions in order to understand his own religion; and he must try to trace conscientiously and lovingly the similarities in the various faiths in order to acquire the key that will unlock to him the law of the religious evolution of mankind." — From the author's Preface.

The Open Court Pub. Co., Chicago

The Psychology of Reasoning

BASED ON EXPERIMENTAL RESEARCHES IN HYPNOTISM. By **ALFRED BINET**, Doctor of Science, Laureate of the Institute (Académie des Sciences and Académie des Sciences Morales), Director of the Laboratory of Physiological Psychology in the Sorbonne (Hautes Études).

"Clear and solid, and deserves careful reading two or three times over."—Francis Galton.

"*The Psychology of Reasoning* is a good specimen of those eminently lucid and clear scientific treatises that Frenchmen know so well how to turn out."

Translated from the recent second edition by *Adam Gowans Whyte, B. Sc.* Pages, 193. Index. Cloth, with gilt top, 75 cents net (3s. 6d.).

The Open Court Pub. Co., Chicago.

324 Dearborn Street.

LONDON:

Kegan Paul, Trench, Trübner & Co., Ltd.

THE PSYCHOLOGICAL REVIEW

The regular numbers of *The Psychological Review* are issued bi-monthly on the first days of January, March, May, July, September, and November, and contain about 112 large octavo pages. The space is about equally divided between research work and critical articles, and reviews and discussion of psychological literature.

The Annual Subscription is $4.00 (16s. 6d.). Single Numbers, 75 cents (3s).

As part of *The Review* there is published annually

The Psychological Index,

a bibliography prepared by Prof. H. C. WARREN, of Princeton University, and Dr. LIVINGSTON FARRAND, of Columbia University. The issues of *The Index* for the years 1894, 1895, 1896, 1897, 1898 and 1899 have already been published. It is sent without charge to subscribers to *The Review*, and may be purchased separately.

As part of *The Review* there is also published a series of

Monograph Supplements,

consisting of longer researches or treatises which it is important to publish promptly and as units.

The *Monographs* already issued are as follows:

VOL. I. $4.00.

I. On Sensation from Pressure and Impact: HAROLD GRIFFING. Pp. ii + 88. 75 cents.
II. Association: MARY WHITTON CALKINS. Pp. vii + 56. 50 cents.
III. Mental Development of a Child: KATHLEEN MOORE. Pp. iv + 150. $1.25.
IV. A Study of Kant's Psychology: EDWARD FRANKLIN BUCHNER. Pp. viii + 208. $1.50.

VOL. II. $4.00. (To contain about 500 pages.)

V. Problems in the Psychology of Reading: J. O. Quantz. Pp. iv + 51. 50 cents.
VI. The Fluctuation of Attention: JOHN PERHAM HYLAN. Pp. ii + 78. 75 cents.
VII. Mental Imagery: WILFRID LAY. Pp. ii + 59. 50 cents.
VIII. Animal Intelligence: EDWARD L. THORNDIKE. Pp. ii + 109. $1.00.
IX. The Emotion of Joy: GEORGE VAN NESS DEARBORN. Pp. ii + 70. 75 cents.
X. Conduct and the Weather: EDWIN G. DEXTER. Pp. viii + 105. $1.00.

Subscriptions may be forwarded and single numbers purchased through the German Agents, MAYER & MÜLLER, Prinz Louis Ferdinandstrasse, No. 2, Berlin (M. 16.50); or through the French Agent, H. WELTER, Rue Bonaparte, 59, Paris (Fr. 21).

THE MACMILLAN COMPANY,

66 FIFTH AVENUE, NEW YORK; AND LONDON.

The Religion of Science Library.

Issued bi-monthly. Paper covers. Yearly, $1.50; special prices for single numbers.

No. 1. **The Religion of Science.** By PAUL CARUS. 25 cents (1s. 6d.).
2. **Three Introductory Lectures on the Science of Thought.** By F. MAX MÜLLER. 25 cents (1s. 6d).
3. **Three Lectures on the Science of Language.** By F. MAX MÜLLER. 25c (1s. 6d.).
4. **The Diseases of Personality.** By TH. RIBOT. 25 cents (1s. 6d.).
5. **The Psychology of Attention.** By TH. RIBOT. 25 cents (1s. 6d.).
6. **The Psychic Life of Micro-Organisms.** By ALFRED BINET. 25 cents (1s. 6d.).
7. **The Nature of the State.** By PAUL CARUS. 15 cents (9d.).
8. **On Double Consciousness.** By ALFRED BINET. 15 cents (9d.).
9. **Fundamental Problems.** By PAUL CARUS. Pages, 373. 50 cents (2s. 6d.).
10. **The Diseases of the Will.** By TH. RIBOT. 25 cents (1s. 6d.).
11. **The Origin of Language,** and **The Logos Theory.** By LUDWIG NOIRÉ. 15c (9d.).
12. **The Free Trade Struggle in England.** By GEN. M. M. TRUMBULL. 25c (1s 6d.).
13. **Wheelbarrow on the Labor Question.** 35 cents (2s.).
14. **The Gospel of Buddha.** By PAUL CARUS. 35 cents (2s.).
15. **Primer of Philosophy.** By PAUL CARUS. 25 cents (1s. 6d.).
16. **On Memory,** and **The Specific Energies of the Nervous System.** By PROF. EWALD HERING. 15 cents (9d.).
17. **The Redemption of the Brahman.** A Novel. By R. GARBE. 25 cents (1s. 6d.).
18. **An Examination of Weismannism.** By G. J. ROMANES. 35 cents.
19. **On Germinal Selection.** By AUGUST WEISMANN. 25 cents (1s. 6d.).
20. **Lovers Three Thousand Years Ago.** By T. A. GOODWIN. (Out of Print.)
21. **Popular Scientific Lectures.** By ERNST MACH. 50 cents (2s 6d.).
22. **Ancient India: Its Language and Religions.** By H. OLDENBERG. 25c (1s. 6d).
23. **The Prophets of Israel.** By C. H. CORNILL. 25 cents (1s. 6d.).
24. **Homilies of Science.** By PAUL CARUS. 35 cents (2s.).
25. **Thoughts on Religion.** By G. J. ROMANES. 50 cents (2s. 6d.).
26. **Philosophy of Ancient India.** By RICHARD GARBE. 25 cents (1s. 6d.).
27. **Martin Luther.** By GUSTAV FREYTAG. 25 cents (1s. 6d.).
28. **English Secularism.** By GEORGE JACOB HOLYOAKE. 25 cents (1s. 6d.).
29. **On Orthogenesis.** By TH. EIMER. 25 cents (1s. 6d.).
30. **Chinese Philosophy.** By PAUL CARUS. 25 cents (1s. 6d.).
31. **The Lost Manuscript.** By GUSTAV FREYTAG. 60 cents (3s.).
32. **A Mechanico-Physiological Theory of Organic Evolution.** By CARL VON NÄGELI. 15 cents (9d.).
33. **Chinese Fiction.** By the REV. GEORGE T. CANDLIN. 15 cents (9d.).
34. **Mathematical Essays and Recreations.** By H. SCHUBERT. 25 cents (1s. 6d.).
35. **The Ethical Problem.** By PAUL CARUS. 50 cents (2s. 6d.).
36. **Buddhism and its Christian Critics.** By PAUL CARUS. 50 cents (2s. 6d.).
37. **Psychology for Beginners.** H. M. STANLEY. 20 cents (1s.).
38. **Discourse on Method.** By RENÉ DESCARTES. 25 cents (1s. 6d.).
39. **The Dawn of a New Era.** By PAUL CARUS. 15 cents (9d.).
40. **Kant and Spencer.** By PAUL CARUS. 20 cents (1s.).
41. **The Soul of Man.** By PAUL CARUS. 75 cents (3s. 6d.).
42. **World's Congress Addresses.** By C. C. BONNEY. 15 cents (9d.).
43. **The Gospel According to Darwin.** By WOODS HUTCHINSON. 50 cents (2s. 6d.).
44. **Whence and Whither.** By PAUL CARUS. 28 cents (1s. 6d.).

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

VERLAG VON O. R. REISLAND

IN LEIPZIG

Die Geschichtsphilosophie Hegels und der Hegelianer

bis auf MARX und HARTMANN. Ein kritischer Versuch von **Dr. Paul Barth.** 1890. 9½ Bogen gr. 8°. M. 3.

Die Frage des sittlichen Fortschritts der Menschheit.

Von **Paul Barth.** 41 S. gr. 8°. M. 1. Separatabdruck aus der *Vierteljahrsschrift für wissenschaftliche Philosophie*, gegründet von R. AVENARIUS. Herausgegeben unter Mitwirkung von ERNST MACH und ALOIS RIEHL von PAUL BARTH, a. o. Professor an der Universität Leipzig. 23. Jahrgang. 1899. Preis des Jahrganges von 4 Heften M. 12.

Die Geschichte der Ästhetik im Altertum

in ihrer geschichtlichen Entwickelung dargestellt von Professor **Dr. Julius Walter.** 1893. 57 Bogen gr. 8°. M. 17. Zum ersten Male wird in diesem Werke eine ausführliche Darstellung der Aesthetik im Altertum, insbesondere im System der griechischen Philosophie, gegeben.

RECENTLY PUBLISHED

A BRIEF

HISTORY OF MATHEMATICS

AN AUTHORISED TRANSLATION OF

DR. KARL FINK'S GESCHICHTE DER ELEMENTAR-MATHEMATIK

BY

WOOSTER WOODRUFF BEMAN
Professor of Mathematics in the University of Michigan

AND

DAVID EUGENE SMITH
Principal of the State Normal School at Brockport, N. Y.

With biographical notes and full index.
Pages, 345. Cl., $1.50 net (5s. 6d. net).

Of all the recent compendia of the history of mathematics, this work by Professor Fink is the most systematic. It is not a book of anecdotes, nor one of biography; it is a clear and brief statement of the *facts* of mathematical history.

The author systematically traces the development of the science of mathematics from the earliest period to the present; he considers the development of algebra from the *hau*-reckoning of the Egyptians to the theory of functions of the nineteenth century; he reviews geometry from the primitive ideas of the Babylonians to the projective and differential geometry and the science of *n*-dimensional space; and finally he traces the history of trigonometry from the rude ideas of Ahmes to the projective formulæ of recent times.

An invaluable work for teachers of mathematics.

"Dr. Fink's work is the most systematic attempt yet made to present a compendious history of mathematics."—*The Outlook.*

"This book is the best that has appeared in English. It should find a place in the library of every teacher of mathematics. It is a hopeful sign that there is an awakening of interest in the history of mathematics."—*The Inland Educator.*

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.
LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

Verlag von Wilhelm Engelmann in Lei

Zur Anschaffung empfohlene Neuigkeiten:

WUNDT, Wilhelm. Professor in Leipzig.

VÖLKERPSYCHOLOGIE. Eine Untersuchung der Er lungsgesetze von Sprache, Mythus und Sitte. *Erster Ban Sprache, erster Theil.* Mit 40 Textfiguren. gr. 8°. 40 Bogen. geheftet, M. 14, in Halbfranzband, M. 17.

Der zweite Theil ist unter der Presse!

KROELL, H., Dr. med. in Strassburg i. E.

DER AUFBAU DER MENSCHLICHEN SEELE. Ein chologische Skizze. Mit 14 Textfiguren, gr. 8°, 25 Bogen. geheftet, M. 5, in Leinwandband, M. 6.

SACK, J., in Heidelberg.

MONISTISCHE GOTTES- UND WELTANSCHAUUNG. such einer idealistischen Begründung des Monismus auf dem l der Wirklichkeit, gr. 8°, 18 Bogen. Preis M. 5.

SCHOELER, Dr. Heinrich, in Leipzig.

PROBLEME. Kritische Studien über den Monismus, gr. 8°, gen. Preis M. 2.

SCHWARZ, Hermann, Privatdocent in Halle.

PSYCHOLOGIE DES WILLENS. Eine Grundlegung der I gr. 8°, 25 Bogen. Preis M. 6.

STÖRRING, Gustav, Dr. phil. et med. in Leipzig.

VORLESUNGEN ÜBER PSYCHOPATHOLOGIE in ihre deutung für die *normale Psychologie.* Mit Einschluss der psych schen Grundlagen der Erkenntnisstheorie. Mit 8 Textfigure 8°, 30 Bogen. Preis M. 9, in Leinwandband M. 10.

Chinese Philosophy, Fiction, and Religion

CHINESE PHILOSOPHY: Being an Exposition of the Main Characteristic Features of Chinese Thought. By *Dr. Paul Carus.* Pp., 62. Numerous diagrams and native characters and illustrations. Price, paper, 25 cents (1s. 6d.).

"Valuable and of unquestioned reliability. The delineation of the philosophy that underlies the Chinese civilisation is so ably done in these pages that the reader cannot fail to appreciate the causes which produce Chinese conservatism."—*Toledo Blade.*

CHINESE FICTION. By the *Rev. George T. Candlin.* With illustrations from original Chinese works, specimen facsimile reproductions of texts, and translations of representative passages. Giving a clear and vivid *résumé* of Chinese romantic literature. Pp., 51. Paper, 15 cents (9d.).

"A list of 'fourteen of the most famous Chinese novels' is given. Many long quotations from plays, poems, and stories are given, and the pamphlet is a source of great pleasure. The pictures, too, are charming."—*The Chicago Times Herald.*

LAO-TZE'S TAO-TEH-KING 老子道德經 Chinese-English. With Introduction, Transliteration, and Notes. By *Dr. Paul Carus.* With a photogravure frontispiece of the traditional picture of Lao-Tze, specially drawn for the work by an eminent Japanese artist. Appropriately bound in yellow and blue, with gilt top. Pp., 345. Price, $3.00 (15s.).

Contains: (1) A philosophical, biographical, and historical introduction discussing Lao-Tze's system of metaphysics, its evolution, its relation to the philosophy of the world, Lao-Tze's life, and the literary history of his work; (2) Lao-Tze's *Tao-Teh-King* in the original Chinese; (3) an English translation; (4) the transliteration of the text, where every Chinese word with its English equivalent is given, with references in each case to a Chinese dictionary; (5) Notes and Comments; (6) Index.

"Extraordinarily interesting. Of great moment."—*The Outlook.*

"A truly remarkable achievement."—*The North-China Herald.*

"While of great importance to the serious student, it is usable and interesting to any one who cares at all for the thought and religions of the Orient."—*The New Unity.*

"Much labor has been put into this book. It will be a great addition to the knowledge which English readers have of one of the greatest of religious books and religious leaders."—*The Church Union.*

"It is a convenient volume through which to make such acquaintance with the Chinese language and Chinese thought as an American scholar must consider desirable in view of the present increased intercourse with the Oriental world."—*Reformed Church Review.*

"All that one could do to make the immortal 'Canon on Reason and Virtue' alluring to American readers has certainly been done by the author. The translation is faithful, preserving especially the characteristic terseness and ruggedness of style of the original, the type work is superb, the comments judicious, and the binding a bright yellow with blue and gilt and red trimmings."—*The Cumberland Presbyterian.*

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

Autumn Publications

Eros and Psyche: A Fairy-Tale of Ancient Greece. Retold after Apuleius. By Dr. Paul Carus. Illustrations by Paul Thumann. Printed from pica type on specially manufactured paper, elegantly bound, and with handsome cover design by E. Biedermann. Pages, xv, 108. Price, $1.50 net.

The Greek novel of Apuleius is one of the quaintest stories of the world's folk-lore. With Paul Thumann's famous illustrations, the legal right of using which has been acquired from both the artist and the publisher, the book will be one of the most attractive published this autumn.

Açvaghosha's Discourse on the Awakening of Faith in the Mahâyâna. Translated for the first time from the Chinese version, by Teitaro Suzuki. Pages, 176. Price, cloth, $1.25 net (5s. net).

This is one of the lost sources of Buddhism. It has never been found in its original Sanskrit, but has been known to exist in two Chinese translations, the contents of which have never been made accessible to the Western world This famous book has now been translated from the Chinese for the first time, by Mr. Teitaro Suzuki, a Japanese Buddhist scholar, and has been published with introduction, comments, glossary, and index.

Whence and Whither? An Inquiry Into the Nature of the Soul, Its Origin and Destiny. By Dr. Paul Carus. Pages, viii, 188. Price, cloth, 75 cents net (3s. 6d. net).

This little book treats of the central problems of all religions; the nature of the ego; the origin, development, and destiny of the human personality; spiritual heredity; the dissolution of the body and the preservation of the soul; the nature of human immortality; mankind's ideals; the rational basis of ethics, etc., all from the standpoint of modern psychology and biology.

The Gospel According to Darwin. By Dr. Woods Hutchinson. Pages, xii, 241. Price, paper, 50 cents (2s. 6d.). Cloth, $1.50 (6s.).

"Is one of the most thoughtful and stimulating of recent publications. . . . In these pages are discussed, in frank, manly, straightforward manner, many of the themes that are most vital to the race. . . . We may not agree with all Dr. Hutchinson says, but we cannot deny the freshness and vigor of all his argument, nor the force of his facts, and we shall all find in his pages very much food for profitable meditation."—*The Chicago Chronicle.*

World's Congress Addresses. Delivered by the President, the Hon. Charles Carroll Bonney, LL. D., to the World's Parliament of Religions and the Religious Denominational Congresses of 1893, with the Closing Address at the Final Session of the World's Congress Auxiliary. Printed as a Memorial of the Significant Events of the Columbian Year. Pages, vi, 88. Price, paper, 15c (9d.).

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.
LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

XI. No. 2. JANUARY, 1901.

THE MONIST

A QUARTERLY MAGAZINE

Devoted to the Philosophy of Science

Editor: Dr. Paul Carus,
Assistant Editor: T. J. McCormack.

Associates: E. C. Hegeler, Mary Carus.

CONTENTS:

PAGE

Prophetic Dreams in Greek and Roman Antiquity.
N. VASCHIDE and H. PIÉRON - - - - - - - - 161

Introduction to a Psychological Study of Religion.
PROF. JAMES H. LEUBA - - - - - - - - 195

The Recent Development of Method in Theoretical Physics.
PROF. LUDWIG BOLTZMANN - - - - - - - - 226

Goethe and Kant.
PROF. FRIEDRICH JODL - - - - - - - - 258

Jew and Gentile in Early Christianity.
EDITOR - - - - - - - - - - - 267

Literary Correspondence.
France.
LUCIEN ARRÉAT - - - - - - - - 277

Communications.
The Projected International Museums of Science, Education, and the Arts, in Paris - 287

Book Reviews. [For particulars see inside title-page.] - - - - - 290

CHICAGO:

THE OPEN COURT PUBLISHING CO.

Price, 50 cts.; Yearly, $2.00.

LONDON: Kegan Paul, Trench, Trübner & Company, Limited.

In England and U. P. U., half a crown; Yearly, 9s 6d.

Copyrighted, 1900, by the Open Court Publishing Co. Entered at the Chicago Post Office as Second-Class Matter.

Cheap Editions of Standard Works

in

Philosophy, Science, and Religion

THE RELIGION OF SCIENCE LIBRARY

Yearly, $1.50

Biological Publications

No. 18. An Examination of Weismannism. G. J. ROMANES...35c (2s.).
" 19. On Germinal Selection. AUGUST WEISMANN.....25c (1s. 6d.).
" 29. On Orthogenesis. TH. EIMER.....25c (1s. 6d.).
" 32. A Mechanico-Physiological Theory of Organic Evolution. KARL VON NÄGELI.....15c (9d.).

Psychological Books

No. 4. The Diseases of Personality. TH. RIBOT.....25c (1s. 6d.).
" 5. The Psychology of Attention. TH. RIBOT.....25c (1s. 6d.).
" 6. The Psychic Life of Micro-Organisms. A. BINET..25c (1s. 6d.).
" 8. On Double Consciousness. ALFRED BINET.....15c (9d.).
" 10. The Diseases of the Will. TH. RIBOT.....25c (1s. 6d.).
" 16. On Memory, and The Specific Energies of the Nervous System. PROF. EWALD HERING.....15c (9d.).

Neat Paper Covers. Stitched Backs

The Open Court Publishing Company

324 DEARBORN STREET, CHICAGO

London: KEGAN PAUL, TRENCH, TRÜBNER & CO., Ltd.

VOL. XI. No. 2. JANUARY, 1901.

THE MONIST

A QUARTERLY MAGAZINE

Devoted to the Philosophy of Science

Editor: DR. PAUL CARUS.
Assistant Editor: T. J. MCCORMACK.
Associates: E. C. HEGELER. MARY CARUS.

CONTENTS:

PAGE

PROPHETIC DREAMS IN GREEK AND ROMAN ANTIQUITY.
N. VASCHIDE and H. PIÉRON - - - - - - - 161

INTRODUCTION TO A PSYCHOLOGICAL STUDY OF RELIGION.
PROF. JAMES H. LEUBA - - - - - - - - - 195

THE RECENT DEVELOPMENT OF METHOD IN THEORETICAL PHYSICS.
PROF. LUDWIG BOLTZMANN - - - - - - - - 226

GOETHE AND KANT.
PROF. FRIEDRICH JODL - - - - - - - - - 258

JEW AND GENTILE IN EARLY CHRISTIANITY.
EDITOR - - - - - - - - - - - - - - 267

LITERARY CORRESPONDENCE.
France.
LUCIEN ARRÉAT - - - - - - - - - - - - 277

COMMUNICATIONS.
The Projected International Museums of Science, Education, and the Arts, in Paris - - - - - - - - - - - - - - 287

BOOK REVIEWS - - - - - - - - - - - - - - - 290

Fact and Fable in Psychology. By *J. Jastrow*, p. 290.—Açvaghosha's Discourse on the Awakening of Faith in the Mahâyâna. Trans. by *T. Suzuki*, p. 293.—Social Justice. By *W. W. Willoughby*, p. 295.—Esquisse d'un enseignement basé sur la psychologie de l'enfant. By *P. Lacombe*, p. 297.—Educational Aims and Educational Values. By *P. H. Hanus*, p. 298.—An Essay on Personality as a Philosophical Principle. By *W. Richmond*, p. 300.—The Peace Conference at The Hague. By *F. W. Holls*, p. 302.—Physikalisch-Chemische Propædeutik. By *H. Griesbach*, p. 305.—Studies: Scientific and Social. By *A. R. Wallace*, p. 306.—Leçons de chimie physique. By *J. H. Van't Hoff*, p. 309.—Elemente der Stereometrie. By *G. Holzmüller*, p. 310.—Berkeley's drei Dialoge zwischen Hylas und Philonous. By *R. Richter*, p. 311.—Berkeley's Abhandlung über die Principien der menschlichen Erkenntnis. By *F. Ueberweg*, p. 311.—John Locke's Versuch über den menschlichen Verstand. By *J. H. v. Kirchmann*, p. 311.—Plato's Staat. By *F. Schleiermacher*, p. 311.—An Enquiry Concerning Human Understanding. By *D. Hume*, p. 312.—La Teoria Dei Bisogni. By *C. Trivero*, p. 312.—Dell' Unità Delle Scienze Pratiche. By *G. Jandelli*, p. 313.—La Riduzione Progressiva della Variabilità. By *D. Rosa*, p. 313.—I Fatti Psichici Elementari. By *A. Baratono*, p. 314.—The Life, Unpublished Letters, and Philosophical Regimen of Anthony, Earl of Shaftesbury. Edited by *B. Rand*, p. 315.—Thomas Carlyle. By *P. Hensel*, p. 317.—Hermann Lotze. By *R. Falckenberg*, p. 317.—Whence and Whither. By *P. Carus*, p. 318.—Pâli Buddhism. By *H. H. Tilbe*, p. 320.

CHICAGO:
THE OPEN COURT PUBLISHING COMPANY.
1901.

In the following paper we purpose giving a complete critical exposition of the views which obtained in Greek and Roman antiquity regarding the prophetic value of dreams. We have pursued this historical study throughout the history of both thinking and believing humanity, and its value is not diminished by the fact that in works treating of dreams the citations from the ancient sources are nearly always garbled or mechanically reproduce the obscure conjectures of authors who have never consulted the original texts. Having reverted to the sources themselves, we believe these pages will fill many gaps in the psychological study of dreams, and at the same time will facilitate the acquisition of a correct point of view in a domain where the imagination even of critics has distorted and falsified citations and facts that have no importance but unfortunately have passed from author to author as precious and categorical documents. The utility of our historical researches is further augmented by the fact that in our day the precise nature of the documents that have been left us on this subject by antiquity is no longer known, and that authors but too frequently base upon this supposititious literature their proofs for the establishment of hypotheses which more nearly resemble poetry than science.

Greek and Roman antiquity presents a very extensive and very rich field for studying the belief in the prophetic value of dreams. We find here a vast amount of material on the subject, as well in mythology and literature as in history and philosophy. And with mythology must not be forgotten oneiromancy, which is intimately related to it, and upon which M. Bouché Leclercq gave us some twenty years ago accurate and valuable information in his work on the history of divination.[1]

II.

In the Homeric mythology, dreams are phantoms, or εἴδωλα, to which the gods give all kinds of forms, and which represent either divine beings or dead ancestors. Sometimes even, the gods and the dead persons themselves appear in the dreams.

[1] Bouché Leclercq. *Histoire de la divination dans l'antiquité.* Paris. Leroux. 1879. II. Chap. I., 280–329.

Hesiod makes dreams the daughters of Night and the brothers of Sleep.[1] In Euripides, dreams are the children of Gæa, the Earth, the common mother of all beings; they are the genii with black wings who travel only during the night; by them Gæa conveys to mortals the revelations which they had formerly heard from her lips at Delphi before Apollo dispossessed her of her place; and she thus avenges herself upon her despoiler.[2] The Pythagoreans regarded them as the sons of Night and the messengers of the Moon.[3] For Ovid, they were the sons of Sleep, and inhabited the palace of their father; they were called Morpheus, Thelos, and Phantasos according as they were capable of taking all human, animal, or material forms.[4] At all events, tradition generally agrees in making Zeus the god of dreams since Homer;[5] but Hermes succeeded him and added to his numerous other titles that of the "guide of dreams."[6] Bouché Leclercq assumes that this power was likewise given to Pan, Ino, Asklepios, and Heracles, which appears to be proved for the latter by the passage "*ex voto Hercult Somniali.*"[7]

All dreams are not regarded as having the same standing; there are some which are due to natural influences; the true dreams are those of the morning and of the third watch,[8] "because food disturbs dreams."[9] There are also several precautions indicated, such as not sleeping upon one's back or upon one's right side, for fear of compressing the viscera.[10] There is even a version given by Plutarch of the origin of the Pythagorean prohibition to eat beans, because of their pernicious influence upon dreams, which

---

[1] Hesiod, *Theogony*, 211.

[2] Euripides, *Hecuba*, 70 et seq.; *Iphig. Taur.*, 1264 et seq.

[3] Plutarch, *De sera numinis vindicta*, 22.

[4] Ovid, *Metamorph.*, XI., 633 et seq.

[5] *Iliad.*, I., 63.

[6] ὀνειροπομπός. Athenæus, *Deipnosophistæ*, I., 16, 6.

[7] Orelli, 1552–2405.

[8] *Odyssey*, IV., 841.

[9] Appuleius, *Metamorphoses*, I., 18.

[10] Tertullian, *De anima*, 48.

they disturbed.[1] Other disturbing atmospheric influences were likewise feared.[2] As a charm against all such baneful factors, protective amulets were used; people also repaired to temples or tombs and invoked there the souls of the dead, as Bouché Leclercq has related at length.

As for the so-called temples of incubation, it may be in place to remark here that the legend according to which the magistrates of Sparta repaired to the temple of Pasiphaë at Thalamiæ[3] in order that the oracle might reveal to them in dreams suitable laws for their country, doubtless rested upon the following passage from Plutarch: "About that time one of the *ephori* had a surprising dream as he slept in the temple of Pasiphaë. He thought that, in the court where the *ephori* used to sit for the despatch of business, four chairs were taken away, and only one left. . . ."[4]

It is to be observed that by these methods the subjects provoked their dreams and put themselves into a state adapted to rendering them religious; so that these dreams were, so to speak, nothing but the reproductions of mythological conceptions. Still, despite the fact that prophecy by dreams received an elaborate symbolism, which reached a considerable development even in the *Odyssey*, and which it remains for us to interpret, the Greeks early acknowledged that all predictions were not realised, and hence arose the celebrated Homeric distinction between dreams: "Twain are the gates of shadowy dreams; the one is fashioned of horn and one of ivory; such as pass through the portals of sawn ivory are deceitful and bear tidings that are unfulfilled. But the dreams that come through the gates of polished horn bring a true issue whosoever of mortals beholds them."[5]

---

[1] *The Elder Pliny*, XVIII., 12. *Ed. Didot*, 30, 2.

[2] Plutarch, *Quaest. conv.*, VII., 10.

[3] Plutarch, *Life of Agis*, IX.

[4] Plutarch, *Life of Cleomenes*. Trans. by Langhorne. New York: Harpers. 1875. Vol. IV., p. 9.

[5] . . . . ἦτοι μὲν ὀνειροι ἀμήχανοι, ἀκριτόμυθοι
γίγνοντ', οὐδέτι πάντα τελείεται ἀνθρώποισιν.
δοιαὶ γὰρ τε πύλαι ἀμενηνῶν εἰσὶν ὀνείρων·
αἱ μὲν γὰρ κεράεσσι τετεύχαται, αἱ δ' ἐλέφαντι.

There has been considerable discussion regarding the meaning of this passage. It has been interpreted as referring to the cornea (the horn) of the eye, which sees with certitude, and to the ivory of the teeth through which pass deceptive words. Again, the horn has been made the attribute of Morpheus, the symbol of obscure but genuine simplicity; and the ivory has been regarded as the symbol of glittering but deceitful promises. Mme. Dacier has also proposed an interpretation of this metaphor; she writes: "By the horn, which is translucent, Homer understood the atmosphere or the heavens, which are translucent; and by the ivory, which is solid and opaque, he had reference to the earth."[1] M. Élie Reclus would take the gate of ivory, which is remarkable for its whiteness, to be the symbol of day, of the reappearance of the vulgar impressions of our waking hours; and the darkish horn to be the sign of night, the time when the gods send prophetic dreams as their messengers.[2] But apparently the simplest interpretation is etymological; it connects ἐλέφας with ἐλεφαίρεσθαι, which means "to deceive," and κέρας with κραίνειν, which means "to realise." As to Virgil, he did nothing more than translate the verses of Homer relating to the value of dreams, which make their veracity depend upon the gate of departure which they have chosen. "There are two gates of Sleep; the one is made of horn, and affords an easy exit for genuine phantoms; the other is wrought of white, shining ivory, but through this gate the Manes send deceptive dreams."[3]

τῶν οἱ μὲν κ' ἐλθωσι διὰ πριστοῦ ἐλέφαντος,
οἱ ῥ' ἐλεφαίρονται, ἔπε' ἀκράαντα φέροντες·
οἱ δὲ διὰ ξεστῶν κεράων ἐλθωσι θύραζε,
οἱ ῥ' ἔτυμα κραίνουσι, βροτῶν ὅτε κέντις ἰδηται.
—*Odyssey*, XIX, 559–568.

[1] Noël, *Dictionaire de la fable*. Ed. Le Normant. 1803. Art. "Songe," p. 579.

[2] Élie Reclus. *Les rêves et le songe prophétique*. *L'humanité nouvelle*, April, 1900. Schleicher. Paris.

[3] "Sunt geminæ Somni portæ: quarum altera fertur
Cornea, quâ veris facilis datur exitus umbris:
Altera, candenti perfecta nitens elephanto:
Sed falsa ad cœlum mittunt insomnia Manes."
Æneid, Book VI., verses 894–898.

Mythology shows us the conception of the prophetic dream losing itself in the most remote epochs of the past, when legends and popular myths were formed. It shows us at the same time that the dream is required to predict the future in part at least, and on the other hand, that there was never found in it as certain a prediction as could have been desired. From this sprang all the various methods for eliminating false dreams, for guarding against error, for inducing dreams, and for determining which might be conceived as answers to the questions put.

III.

The classical distinction of ἐνύπνια, mere dreams, and ὄνειροι, or dreams having a prophetic significance, was not established until a late period. Plutarch mentions it.[1] At this period, mythology was merged with, or rather was displaced by, oneiromancy, which sought to interpret and explain the prophetic significance of dreams. Among dreams of the second category in the new terminology are to be included dreams of direct and distinct prevision and the enigmatical symbols which the soothsayers make it their business to interpret.

The symbolism of dreams varies considerably; frequently it is derived from associations which are utterly incomprehensible today. Generally it oscillates between two extremes,—direct analogy and direct opposition, as Tylor has shown. For example, to dream of playing on the clavichord presages the death of relatives; to dream of having a rib removed from one's side is naturally a sign that one shall mourn before long the death of one's wife. The rules are either peculiar to certain regions, or they are general in their significance and pretty much the same all over the world.[2]

There has never been an established criterion for distinguishing common dreams from prophetic dreams, and the latter have always been interpreted rather at random. If the predictions were

---

[1] Plutarch, *De placitis philosophorum*, V. 2.

[2] Tylor, *Primitive Culture*, Vol. I., pp. 121 et seq.; following Artemidorus, Cockayne (*Leechdoms, etc. of Early England*, Vol. III.), Seafield (*Literature, etc. of Dreams*), Halliwell (*Popular Rhymes etc.*, p. 217 et seq.).

not realised, it was the fault of the diviner, not the fault of the prophetic dream, which in itself always presages correctly; and gradually it became customary to give dreams a double interpretation, so as to exclude the possibility of error. "The certitude of dreams would be absolute and quite beyond the pale of doubt if their interpreters were not deceived in formulating their conjectures."[1]

The symbolism may be also entirely conventional and adapted to the occasion. The dreamer, for example, may agree in advance that if he dreams of his right hand moving he will recover from his illness, and if he dreams of his left hand he will not recover; and since most frequently he is likely to dream of both, the issue, whatever it happens to be, will have been always foreseen. This symbolism of interpretation speedily lapses into childishness; for example, if an individual who is seventy years of age dreams that he will live fifty years more, he is permitted by the symbolism to reckon on thirteen years only, because the letter ν′ which denotes 50 occupies the thirteenth place in the Greek alphabet.[2]

These methods are common, in fact, to all the sciences of divination. Whether the task be that of interpreting the flight of birds, or the entrails of victims, or the omens furnished by animals, or springs, or what not, the diviners always endeavor to give ambiguous formulæ, the symbolism of which can be readily turned and made applicable to events which are quite opposite in character.

A place apart is to be accorded to medical divination by dreams, which is admirably expounded in the work of Kurt Sprengel,[3] which furnishes accurate details from ancient authors treating of the complicated ceremonies of the temple of Æsculapius and the mode of summoning the gods. Baths and fumigations preceded the consultation of the oracle[4] and were intended to induce in some measure

---

[1] Ammianus Marcellinus, XXI. 102.

[2] Artemidorus, *Oneirocriticon*, II., 75. Ed. Hercher, Leipsic, 1864.

[3] Sprengel, *Histoire pragmatique de la médicine*. French translation by Jourdan, 1815. Vol. I., Section 2, Chapter V., pp. 140–175. (*Sur l'exercice de la médicine dans les temples grecs.*)

[4] Pausanias, L. VII. Ch. I., p. 34.

favorable physiological and psychological conditions for the suggestion of dreams. The subject then lay down either between the arms of the goddess[1] or upon the skin of a ram previously sacrificed. "These preparations having been made," says Pausanias, "they sacrifice a ram, and after having stretched its skin on the ground they go to sleep on it and wait for the oneirological revelation." The divine apparitions assume, of course, different shapes, such as that of a viper, a dove, etc.; in fact, every apparition, whatever it may be, represents a god. As to the remedies prescribed, which in the majority of cases were doubtless suggested during sleep by the attending priests, they were usually quite innocuous, being in the main gentle purgatives or foods easily digested. On the other hand, the advice sometimes given was so utterly absurd that only a madman could have thought of following it; for example, the letting of one hundred pounds of blood. (Pausanias, *Attica*, I., 34–35.)

When a patient succumbs, his death is naturally attributed to some violation of the directions given.[2] The custodians of the temple, *νεωκόροι*, acted as interpreters, or *ἱκέται*, and sometimes dreamed themselves in place of the patient. Then there were the *ὀνειροπόλοι*.[3]

The same is true of the oracle of Pluto and Persephone in the grotto of Charon.[4] In this last case there was no necessity even for methods of suggesting certain dreams. The priest suggested them to himself or invented what he wished, thus making himself a member of that class of soothsayers who could not meet one another on the street without bursting out laughing.

There existed in antiquity a considerable number of works on oneirology, which demonstrates its importance. Unfortunately, the majority of these records have been lost.[5] Yet there have

[1] Pausanias, X. 32, p. 270.

[2] For a list of the instructions, see Aristides, *Sacred Discourses*, Part I., 413, 491, 501, 510; Part II., 515, 520, 531.

[3] Pausanias, L. II., Ch. II., p. 219; Ch. XVII., p. 279; L. X., Ch. XXXII p. 270.

[4] Strabo, L. XIV., p. 791.

[5] Epicharmus: Tertullianus, De anima, 46; Lorenz, Leben des Epicharmus, p. 289.—Panyasis Halicarnassius: Artemidorus, I., 2, 64; II., 35; Suidas, *Πανύασις*.

been a few books of this order preserved, besides the valuable work of Artemidorus, and these, together with a few learned treatises by moderns, afford us pretty adequate information.[1] We shall not speak of the work of Artemidorus at length here; it is simply a manual for the use of oneirocritical diviners, a sort of *Key to Dreams*, of the same type as those published to-day. We shall merely observe that the rules for interpretation here given are but very rarely founded on experience; and that they rest almost entirely on analogies which are more or less vague, or upon popular traditions of unknown origin. These rules, furthermore, have been religiously handed down from antiquity, and our modern *Keys to Dreams* are in large measure transcripts of the rules found in the book of Artemidorus.

IV.

The data of literature and history are to be distinguished only with difficulty in this province; we shall essay, however, to adduce first the instances which lay no claim whatever to positive histor-

---

—Antiphon: Cicero, De divinatione, I., 20, 51; II., 70; Seneca, Controv., 9; Tertul., De an., 46; Diogenes Laertius, II., 46; Hermogenes, De ideis, II., 7; Lucianus, Hist. ver., 2; Fulgentius, Mytholog., I., 13.—Strato, Diog. Laert., V., 59; Tert., De an., 46.—Demetrius Phalereus: Artem., II., 44.—Aristander Telmessius: Plinius, XVII., 38, 343; Plutarchus, Alex., 2; Arrianus, Anab., II., 18; Lucianus, Philos., 21, 22; Artem., I., 31; IV., 23.—Apollodorus Telmessius: Artem., I., 79.—Philodorus: Tertul., De an., 46.—Chrysippus: Cicero, De div., II., 70; Artem., IV., 65.—Antipater Tarsensis: Tert., De an., 46; Artem., II., 66.—Dionysius Rhodiensis: Tertul., De an., 46; Artem., II., 66.—Cratippus.—Alexander Myndius.—Nigidius Figulus: Io. Lyd, De ostentatione, 45.—Hermippus Berytensis: Tertul., De an., 46.—Artemon Milesius: Art., I., 2; II., 44; Fulg. Mythol., I., 13; Scholium Homeri Iliadis, XVI., 894.—Aristarchus: Art., IV., 23.—Aristides: Aristides, Orationes, IV., V., VI.—Horus: Dio Chrysostomus, Orat., XI.—Geminus Tyrius: Art., II., 49.—Nicostrates Ephesius: Art., I., 2.—Phœbus Antiochenus, Art., I., 2; IV., 66.—Dio Cassius: Dio Cassius, LXXII., 23.—Serapion Ascalonius: Tertul., De an., 46.—Philo Berytensis: Histor. graec. fr., Ed. Didot, III., 35.—Pappus Alexandrinus; Suidas, Πάππος.

[1] Astrampsychos: Oraculorum decades, CIII. Ed. Hercher, 1863.—Synesius: Περὶ ἐνυπνίων (De insomniis).—Macrobius: Commentarium in somn. Scipionis, Libri II.—Meibomius: De incubatione in fanis deorum medicinæ causa.—Leopardi: Saggio sopra gli errori popolari degli antichi, Cap. V. Dei sogni. 1845.—Welcker: Incubation, Rhetor Aristides; Kleine Schriften, III., pp. 87, 114.—Büschenschutz: Traum und Traumdeutung im Alterthum. Berlin, 1868.

ical foundation; such as are found, for example, in the Homeric poems. Thus, Agamemnon sees in a dream the wife of Nestor who comes to speak and counsel with him. Nauticaa and Telemachus see Athena herself, and it is not the shade of Patroclus, but Patroclus himself, that appears to Achilles.[1] We may refer also to the dream of Penelope, who saw Ulysses himself in a dream on the eve of his return, and bitterly complained of being thus plagued by clear visions during her sleep.[2] The appearance of the gods themselves in visions was used by all the anthropomorphic religions as a ground for rejecting Christianity. Several celebrated cases furnished the foundation for this argument.

Onatus made his statue of Demeter black to accord with her phantom, which he had seen in a dream.[3] Parrhasius did the same for his Heracles of Lindos.[4] Æschylus recounts the dream of Atossa, the mother of Xerxes, which presaged the fateful reverses of her son in Greece.

Says Atossa:

"Since when my son departed with the army,
To bring destruction on Ionia, scarcely
One night hath been that did not bring me dreams;
But yesternight, with figurement most clear,
I dreamt; hear thou the theme. Methought I saw
Two women richly dight, in Persian robes
The one, the other in a Dorian dress,
Both tall above the vulgar stature, both
Of beauty blameless, and descended both
From the same race. The one on Hellas dwelt,
The other on fair Asia's continent.
Between these twain some strife there seemed to rise;
Which when my son beheld, forthwith he seized them,
And joined them to his car, and made their necks
Submissive to the yoke. The one uptowered
In pride of harness, as rejoiced to follow

---

[1] *Iliad*, II., 5. *Odyssey*, VI., 13; XV., 10. *Iliad*, XXIII., 65.

[2] *Odyssey*, XX., 88.

[3] *Pausanias*, VIII., 42, 7.

[4] Athenæus, *Deipnosophistæ*, XII., 62. Ed. Meineke, 3 vol., Teubner, 1858.

The kingly rein. The other kicked and plunged,
And tossed the gear away, and broke the traces,
The yoke in sunder snapt, and from the car
Ran reinless. On the ground my son was thrown,
And to his aid Darius pitying came,
Whom when he saw, my Xerxes rent his robes."[1]

Sophocles makes Chrysothemis recount the dream of Clytemnestra, who sees Egisthus menaced with death, and Chrysothemis sets forth the dream as follows:

"'Tis whisper'd, that she saw our father come
Again to light, and seem'd once more his wife:
That he took in his hand the regal scepter,
(Which once he bore, but now Ægysthus bears)
And fix'd it in the earth; when strait there sprang
From it a thriving branch, which flourish'd wide,
And overshadow'd all Mycenæ's land."[2]

Aristophanes has Æschylus parody the monologue of Hecuba in Euripides, and speaks in this connexion of the hot baths which are recommended for counteracting the evil effects of portentous dreams. "Come, ye attendants, light me a lamp, and bring me dew from the rivers in pitchers, and warm some water, that I may wash away the divine dream."[3]

Plautus alludes to the Greek customs relative to medical suggestion by dreams in the temple of Æsculapius. Cappadox, a slave merchant, feeling ill after his interrogatory dreams in the temple of Æsculapius, explains to Palinurus, and afterward to his cook, that he had seen Æsculapius in his dream seated at a distance from him and unwilling to approach his presence. The cook answers that this is a sign that the god is not concerned about him and that he might better have lain in the temple of Jupiter.[4]

Literature has connected inventors with divination by dreams,

---

[1] Æschylus, *The Persians*, verses 226 et seq. *The Lyrical Dramas of Æschylus* from the Greek. Trans. into English verse by John Stuart Blackie, London, J. W. Parker, 1850.

[2] Sophocles, *Electra*, Eng. trans. by Theobald. London, John Bell, 1777.

[3] Aristophanes, *Frogs*, verse 1340, Bohn's trans.

[4] Plantus, *Curculio*, Act II., Scenes 1 and 2.

Æschylus having done so in the case of Prometheus,[1] Pliny in the case of Amphictyon,[2] and Pausanias in the case of Amphiaraus, the latter author having also spoken of a celebrated temple of incubation, namely that of Ino.[3]

Several authors, who, although they appeared late in the development of this species of literature, are on that account none the less interesting from the present point of view, strenuously combated the belief in the prophetic value of dreams. Theocritus, for example, treats the visions of dreams as unmitigated falsehoods. "Fatigued by the extraordinary exertions of the preceding day, his stomach empty, he dreams that he is seated on the banks of a river and is idly dangling his hook. Suddenly a fish of monstrous size seizes his bait. With line drawn taut and hands trembling with excitement, he endeavors to draw the fish to the shore without ever so much as once hoping for success. But the latter made no attempt to escape, and Osphalion drew upon the bank a fish of pure gold. Overcome with joy, he swore to abandon Neptune for Cybele, and to live the life of a king. Suddenly he awoke, terrified at the perjury he had committed, and then Olphis answered him:

'Nay, fear thee not at all.
Thou art not sworn, for thou hast not found true
The golden fish thou sawest, and the vision
Was but a lie. But if unslumbering
Thou search those waters, then perchance thy sleep
Hath augured luck. Go seek the fish of flesh,
Lest thou of hunger die and golden dreams.'"[4]

Ennius declares that he has little regard for interpreters and diviners, including prognosticators by dreams:

"I value at naught the augurs of the Marsian land, the haruspices of the villages, the astrologers of the market-place, the prognosticators of Isis, and the interpreters of dreams. They are but

---

[1] Æschylus, *Prometheus*, verse 485.

[2] The Elder Pliny. VII., 56, 203.

[3] Pausanias, I., 34–35, and VII., 26.

[4] Theocritus, *Idyll*, XXI., verses 63 to 67. English trans. by J. H. Hallard, London, 1894.

idlers, fools, and vagabonds, without either art or learning, and as superstitious as they are impudent; who, without knowing themselves the way, would seek to guide the footsteps of others."[1]

Petronius is even more emphatic, and declares that the gods do not send the dreams, but that the dreamer creates them himself.[2]

History tells of many dreams that have been considered prophetic, but one may reasonably be astonished at their number being so few when one considers the great zeal with which the belief in their prophetic value has always been supported.

There is told first the dream of Hecuba, who, being *enceinte*, fancied she gave birth to a flaming torch which set the universe on fire: it was Paris, who was destined to kindle the war with Troy. Cicero attributes no higher value to this dream than that of a poetic legend, as he does likewise to the dream in which Æneas saw his entire future destiny.[3]

According to Justinus,[4] Astyages, the grandfather of Cyrus, caused the latter to be exposed immediately after birth in an unprotected place, because he had dreamed that a vine had sprung forth from the womb of his daughter and had spread its branches over all Asia,—a dream which the diviners interpreted as a sign that he should be dethroned by a son of his daughter, as yet unmarried.

Herodotus relates that at the birth of his daughter Mandane, Astyages dreamed that she made so great a quantity of water as not only filled his capital Ecbatana, but overflowed all Asia. He

---

[1] Ennius cited by Cicero, *De divinatione*, I., 58.

"Non habeo denique nauci Marsum augurem,
Non vicanos aruspices, non de circo astrologos,
Non Isiacos conjectores, non interpretes somnium.
Non enim sunt ii arte divini, aut scientia,
Sed superstitiosi vates, impudentesque harioli,
. . . . . .
Qui sibi semitam non sapiunt, alteri monstrant viam."

[2] "Somnia quae mentes ludunt volitantibus umbris; nec delubra deum, nec sub aethere numina mittunt, sed sibi quisque facit." Petronius, *Satyricon*, CIV. Ed. Panckoucke, 1835. II., p. 88.

[3] Cicero, *De divinatione*, Lib. I., xxi.

[4] Justinus, Lib. I., Chapter 4.

placed the date of the dream of the vine in the first year of the marriage of Mandane with Cambyses.[1] Justinus also relates that Cyrus had a dream which confirmed him in his design to dethrone Astyages, but he does not report it in detail.[2]

Xenophon says not a word concerning these dreams in his *Cyropædia*, but on the other hand he declares that shortly before his death Cyrus saw a majestic personage which said to him: "Prepare thyself, Cyrus, for thou shalt soon depart for the abode of the gods,"[3] which is in flat contradiction with the story of Herodotus,[4] according to which he saw Darius, the eldest son of Hytaspes, with two wings on his shoulders,—the one casting its shadow over Asia and the other over Europe; from which he inferred that the son of Hytaspes was plotting against him and would take the succession,—a prophecy which was fulfilled.

Xenophon relates two dreams to which he attributes prophetic value and which took place during the famous retreat of the ten thousand. In the first, which he dreamed at the moment the Greeks found themselves abandoned in Asia, "he fancied he saw in the midst of great thunder a lightning bolt fall upon his paternal house, which was set on fire."[5] He did not know whether the bolt of Jupiter was a favorable sign or whether the blazing fire around him presaged that he would be imprisoned in Asia. In any event, the dream having awakened him, he called together his commanders and proposed to them to set out at once on their journey to the coast. Thus began the famous retreat of the ten thousand. In the second, "he dreamed that his feet were bound with fetters, which, having burst of their own accord, left him free to walk about as much as he wished."[6] This dream, which he recounted to his commanders as a fortunate presage, preceded the difficult passage of the river Centrites, a feat which the Greeks accomplished successfully.

Lucian has spoken of the first of these dreams, which he con-

---

[1] Herodotus, Book I., 107.
[2] Justinus, Book I., Chapters 4 and 6.
[3] Xenophon, Book VIII., Chapter 7.
[4] Herodotus, Book I., 209.
[5] *Anabasis*, Book III., Chapter 1.
[6] *Anabasis*, Book IV., Chapter 3.

siders as nothing but a piece of artful strategy on the part of Xenophon, and compares it to one of his own which he has just related and which he had employed merely as a rhetorical device. He says:

"The vision of Xenophon was not that of a charlatan, and his narration was not an idle one. He was at war, his situation was critical, his enemies surrounded him on all sides, and his story was attended with the happiest results. In like manner, I have recounted my dream merely for the purpose of guiding young men toward the good and toward the love of science."[1]

Herodotus recounts a series of dreams which preceded the expedition of Xerxes into Greece.

The king, who was determined upon this expedition, was earnestly dissuaded from the enterprise by his uncle, Artabanus. He was at first greatly put out by this interference, but gradually coming around to his uncle's point of view he was on the point of revoking his decision when he fell asleep. There then came to him in a dream, so the Persian accounts run, a tall and handsome man who upbraided him for so lightly abandoning his design. But on the following morning Xerxes, paying no attention to the dream, announced that after mature reflexion he had decided to follow the advice of his uncle, Artabanus. The following night he had another dream in which the same vision threatened him with the total demolition of his power if he persisted in his new resolution. Dismayed, Xerxes sent for Artabanus, explained to him the situation, and caused him to pass the night on his couch, clad in Xerxes's, own royal vestments, in order that the dream might come to Artabanus also; which would be a proof of its divine origin. And in fact, Artabanus did see the vision, who threatened to burn out his eyes with red hot irons if he persisted in dissuading the king from his original purpose. Artabanus thereupon also set to work actively promoting the expedition. Finally, after his resolution had been taken, Xerxes had a third dream. He imagined himself crowned with the branches of an olive-tree which covered the entire earth; afterwards, the crown which rested on his head van-

[1] Lucian, *Dreams*, 17. French translation by Talbot, Paris, Hachette, 1847, T. I., p. 6.

ished. The magi presaged that he would have for his subjects all the men of the earth.[1]

The genesis of these dreams is not difficult to establish. They are sufficiently explained by the desires and ambitions of Xerxes and the fears of Artabanus. In any event, the prophecy was an unfortunate one, since it led Xerxes to the historical disaster of Salamis. It might be said that the last vision could be interpreted as presaging this event, and that the magi wished to flatter Xerxes by their construction of it; but it is quite probable that the dream, if it was not invented after the fact, was at least so constructed as to be susceptible of an interpretation conforming to the real outcome.

Darius, as Quintus Curtius tells us, on the eve of his encounter with Alexander, had a dream which his diviners interpreted; but our author hesitates in giving his opinion as to the value to be attributed to the interpretation. "Greatly disturbed by the cares which were weighing upon him, the image of the approaching events pursued him even in his sleep; whether it be that his solicitude or some divining faculty of his mind summoned them before his vision."[2] In any event, he dreamed that the camp of Alexander was lighted up by flames, and that Alexander wore an ancient habit which he himself had once worn, and that having been conducted on horseback into Babylon, he suddenly disappeared from sight. The interpreters predicted either that Darius would surprise the camp of the king, who would take flight in a Persian garment, or that Alexander would achieve a signal triumph and become king in place of Darius. Darius accepted the first interpretation, which seemed to suit better with his wishes, and, marching against Alexander, suffered a disastrous defeat. The dream did not, and could not, presage falsely, since one of the interpretations was bound to come true. Darius had simply made an unfortunate choice.

According to Quintus Curtius, Alexander himself had a dream

---

[1] Herodotus, Book VII., Chapters 12–20.

[2] "Anxium de instantibus curis, agitabant etiam per somnum species imminentium rerum; sive illas aegritudo, sive divinatio animi praesagientis accersit."—Quintus Curtius, Lib. III., 3.

revealing the divine secrets of medicine. Resting in the chamber of his general, Ptolemæus, who had been seriously wounded and whom he loved very much, he fell into a deep sleep in which he saw "a dragon bringing to him in its jaw an herb which it offered as a remedy for Ptolemæus's sickness, assuring him that he would be able to recognise it. The herb was found and the wound was effectually healed."[1]

At Rome, Tarquin had a dream, which was interpreted by the soothsayers as presaging the downfall of the kingly rule. Cicero cites it on the authority of Brutus Attii.[2]

Let us also cite the dream of Calpurnia, who saw her husband, Cæsar, lying murdered in her arms on the night preceding his assassination.[3] Livy gives a different version of the dream.[4] According to him, the gable of Cæsar's house fell in the dream of Calpurnia and aroused her fear. The story doubtless underwent many modifications and Alexander ab Alexandro relates that Cæsar himself is said to have "dreamed on the eve of his death that he was seated on the throne of Jupiter and had been hurled down from Heaven."[5]

There is still to be cited the phantom that appeared to Brutus at Philippi, where Brutus perished,[6] and also the vision of Augustus at Philippi, where the latter dreamed that a friend had counseled him to abandon his tent, which was subsequently captured by the enemy. Augustus did as he was advised, and thus saved his life.[7]

Cicero gives a long list of prophetic dreams (*De divinatione*, I., 20–29):

That of the mother of Dionysius, the tyrant of Syracuse, who dreamed that she had given birth to a satyr.

The dream of Hecuba already cited, together with that of Tarquin.

That of the mother of Phalaris, the cruel tyrant of Agrigen-

---

[1] Quintus Curtius, IX., 33. [2] Cicero, *De divinatione*, I., 22.
[3] Plutarch, *Life of Cæsar*, LXVIII.
[4] Titus Livius, L. CXVI. Fragment. Ed. Didot, T. II., p. 902.
[5] *Dies geniales*, L. III., Chapter 26. [6] Plutarch, *Life of Cæsar*, LXIV.
[7] Suetonius, *Augustus*, XCI.

tum, who, according to Heraclides Ponticus, dreamed of blood at his birth.

That of Cyrus, who dreamed of three suns, which his soothsayers felicitously induced him to interpret as meaning that he would reign three times ten years.

That of Hannibal, who in a dream received a visit from Juno, who forbade him to remove a column of gold from her temple; and who, in another, dreamed of a devastating monster, which, according to Cælius, was his own impersonation.

That of Hamilcar who, at the siege of Syracuse, dreamed that he would dine in the city on the following day, which he did, but as a prisoner, having been captured in a sally by the besieged.

Socrates saw three days before his death the vision of a beautiful woman who told him that "on the third day he should reach fertile Phthia,"[1] and he then announced the day of his death to his friends.

Eudemus of Cyprus, according to Aristotle, dreamed of his recovery while sick.

Twice in succession Sophocles saw in a dream Hercules, who charged a thief with having abstracted from his temple a vessel of gold; whereupon Sophocles caused the arrest of the thief, who confessed his crime.

Curious is the dream of the Roman peasant, which appeared so portentous to the Senate of Rome that it ordered the celebration of certain interrupted public games to be repeated. "This is a fact," says Cicero, "upon which the two Fabii, the two Gellii, and more recently still the historian Cælius, are all of accord." During the celebration of the first great votive games, which took place in the time of the Latin war, the city was suddenly called to arms, and later the games were ordered to be repeated. Before they were begun, and just as the spectators had taken their seats, a slave carrying a furca, or fork-shaped criminal yoke, and writhing under the blows of a whip, was driven across the arena. Some time afterwards, a Roman peasant had a dream, in which there appeared a

[1] The verse is from Homer, *Iliad*, IX., 363 (Ed. Dindorf) and reads: ἠματι τριτάτῳ Θθίην ἐρίβωλον ἱκοίμην. Cited in Plato. *Crito*, II.

person, who after declaring that the leader of the dance in the games had not pleased him, ordered him to go and make announcement of this fact to the Senate. The peasant, not daring to do so, had the same dream again, accompanied with the same injunction, this time with threats. Fear still holding him back, his son died. He then received the same command for the third time, and having finally been stricken with paralysis, he made known his dream to his friends who, placing him upon a litter, conveyed him into the presence of the Senate, whence, after having related his dream, he walked home without help. The Senate, being fully convinced of the truth of this dream, ordered a second celebration of the games.

Livy tells the same story, in almost precisely the same language, but in somewhat greater detail and with a slight difference as to the nature of the games.[1]

The second of the Gracchi, according to Cælius, was forewarned by his brother that he would die the same death as the latter.

Simonides, according to his own testimony, was induced by the apparition of an unknown man whose abandoned body he had buried, to relinquish his intention to embark upon a certain vessel which was afterward wrecked. The poet, who had contemplated making a sea voyage, saw in a dream the person whom he had interred, beseeching him to abandon his project, informing him that if he persisted in embarking he would suffer shipwreck. Simonides altered his plans, and the vessel upon which he had intended to sail was lost.

Cicero, finally, narrates the dream of the two Arcadians, which we shall give later.

* * *

Valerius Maximus also gives a list of dreams, many of which have already been mentioned, and which are designed to establish the prophetic value of dreams.[2] We shall relate a few of them.

---

[1] Livy, Book II. 36. Also cited by Valerius Maximus, I. 7. IV., and by Lactantius, *Divine Institutes*, II. 8.

[2] Valerius Maximus, *De somniis*, I., Chapter 7.

The first is of King Crœsus. "This king had two sons; one of these, who excelled the other greatly in physical strength and beauty, and who was the heir to the throne, appeared to Crœsus in a dream, transfixed by the point of a sword. In order to avoid the fulfilment of the dream, he enjoined his son who was devoted to warlike pursuits not to leave his palace. Now, it happened that a huge boar was ravaging the country of the Lydians and had killed numbers of the peasantry. Some representatives of the latter repaired to the king, imploring succor in their distress, and the king suffered his son to go forth in quest of the boar, saying that the animal carried no weapon of iron and his son did not fear his tusks. But what came to pass? A javelin hurled at the beast by one of the party struck the prince, and he died from the wound, thus fulfilling the paternal dream."[1]

Next comes the dream of Caius Gracchus: "As he slept he dreamed that he saw his brother Tiberius, who told him that he would die in the same manner as he, Tiberius, had died. Caius was heard to tell this story several times even before he was elected to the office of tribune of the people, in which he met a fate similar to that of his elder brother."

The dream of the two Arcadians is the most celebrated of all. "Two friends of Arcadia, while journeying together, came to the city of Megara. One of them stayed with friends, and the other took lodgings in an inn. The first dreamed that the other, having been betrayed by his host, was beseeching him to come to his assistance, saying that if he would make haste it would be still possible to save him from the impending danger. After this vision, he arose and dressed himself, with the intention of proceeding to the inn in question. Then, in an ill-omened moment he repented of having been so unduly influenced by a dream, and came to the conclusion that it would be a futile undertaking to make his way in the dead of night to the place. He returned to his bed, and began to dream anew. He dreamed that his friend, who had in the meantime been put to death by the inn-keeper, was beseeching

[1] Also told by Herodotus, I., 53.

him now, not to save his life, which had been lost through his indifference, but to avenge his death, declaring that his murdered body was at that very moment being carried to the gates of the city in a cart laden with manure. The wretched man, thus besought by his friend, hurried to the gates of the city, and stopping the cart, which he had seen in his dream, he seized the murderer and led him away to the courts of justice, where the wretch was condemned to death."

The dream of Arterius Rufus is remarkable for its precision, which as a rule is rare: "Even a less interval of time separated this dream from the events which it presaged. Sojourning at Syracuse during the gladiatorial exhibitions, he saw in a dream a retiarius, or net-fighter, thrusting a sword into his bosom. On the following day, while witnessing the combat, he narrated his dream to the spectators seated beside him. Soon after, a retiarius and a swordsman entered the arena on the same side on which the Roman knight was seated. At this sight Rufus cried out: 'There is the retiarius by whom I dreamed I was assassinated'; and he prepared immediately to withdraw. But his neighbours succeeded in allaying his fears, and became thus indirectly responsible for the death of the unfortunate man. For the retiarius, having forced the swordsman to the wall, entangled him in his net, and in endeavoring to strike him after he had fallen, pierced with his weapon the bosom of Arterius, who died from the wound."

On the other hand, the dream which is narrated of Alcibiades is very vague: "Alcibiades also, during his sleep, had a remarkably distinct premonition of the fate which awaited him. For the mantle of his mistress, with which he had covered himself when going to sleep, was made to do service as a shroud for his uninterred body."

The following is a list of the dreams cited by Valerius Maximus:

I. De Somniis Romanorum:

(1) Artorii medici de Augusto; (2) Calpurniae de Caesare; (3) P. Decii, T. Manlii coss; (4) Ti. Attinii cujusdam; (5) M. Ciceronis exsulis; (6) C. Sempronii Gracchi; (7) Cassii Parmensis; (8) Alterii Rufi equitis romani.

II. De Somniis externorum:

(1) Hannibalis Poeni; (2) Alexandri magni regis; (3) Simonidis poetae; (4) Croesi Lydorum regis; (5) Cyri Persarum regis; (6) Himeraeae mulieris de Dionysio; (7) Matris Dionysii tyranni; (8) Hamilcaris Poeni; (9) Alcibiadis Atheniensis; (10) Arcadis cujusdam.[1]

Plutarch, who is the chronicler of legends *par excellence*, narrates many that have reference to prophetic dreams. The majority of them have already been cited. The remainder are traditions that have been orally preserved for a great length of time. Many of them possessed no prophetic value except that which superstition generously accorded to them. Take, for example, the dreams which troubled Pausanias because of his remorse for the murder of Cleonice.[2]

"It is related, that when Pausanias was at Byzantium, he cast his eyes upon a young virgin named Cleonice, of a noble family there, and insisted on having her for a mistress. The parents, intimidated by his power, were under the hard necessity of giving up their daughter. The young woman begged that the light might be taken out of his apartment, that she might go to his bed in secrecy and silence. When she entered he was asleep, and she unfortunately stumbled upon the candlestick, and threw it down. The noise waked him suddenly, and he, in his confusion, thinking it was an enemy coming to assassinate him, unsheathed a dagger that lay by him, and plunged it into the virgin's heart. After this he could never rest. Her image appeared to him every night, and, with a menacing tone, repeated this heroic verse,—

Go to the fate which pride and lust prepare!

Having been besieged in Byzantium, he found means to escape thence; and as he was still haunted by the spectre, he is said to have applied to a temple at Heraclea, where the *manes* of the dead were consulted. There he invoked the spirit of Cleonice, and entreated her pardon. She appeared, and told him,—'He would soon be delivered from all his troubles, after his return to Sparta;' in which, it seems, his death was enigmatically foretold."

It was almost a moral certainty that Pausanias would have been delivered from all his troubles after his return from Sparta, even if he had not died.

As for the dreams of Lucullus recorded in Plutarch, they possess nothing characteristic except lack of precision. The following is one of them: "On the same day, the goddess Proserpine ap-

[1] Valerius Maximus, *De somniis*, T. I., Cap. VII.

[2] Plutarch, *Life of Cimon*. Trans. by Langhorne. Vol. II., p. 401.

peared in a dream to Aristagoras the public secretary, and said: 'Go and tell your fellow-citizens to take courage, for I shall bring the African piper against the trumpets of Pontus.'" On the following day, the besieged Cyzicenians saw the machines which had been erected against their walls broken to pieces by a violent wind from the south, which popular superstition naturally interpreted as the African piper,[1]

At Sinope, Lucullus had a dream in which a person came to him and said: "Go forward, Lucullus, for Autolycus is coming to meet you." The significance of the dream was revealed to him the same day when in pursuing the Cilicians to their ships he saw a statue lying on the shore which they had not been able to get on board. It was the statue of Autolycus himself, the founder of Sinope, and out of regard for the vision Lucullus restored their effects to the old inhabitants of the city and subsequently looked after their welfare.

On another occasion, he is said to have dreamed that Minerva appeared to him in a dream and revealed the presence of a large fleet of the enemy approaching. Her words were:

> "Dost thou then sleep, great monarch of the woods,
> When fawns are rustling near thee?"

It will be evident that there is not much to be gained from a study of this class of dreams.[2]

Finally, we find a number of prophetic dreams mentioned in Appian: Didonis,[3] Cæsaris de colonia carthaginienti,[4] Matris Seleuci,[5] Antigoni,[6] Mithridates de Latonae luco,[7] Luculli,[8] Syllae de

---

[1] Plutarch, *Life of Lucullus*. Langhorne, Vol. II., p. 427.

[2] The following is a list of Plutarch's dreams, the references being to Didot: Agesilai Aulide, *Vitæ*, T. II., p. 714, l. 12; Alcibiadis ante necem. I., p. 254, l. 52; Alexandri magni de Clito, II., 827, 25; Antigoni, II., 1063, 6; Antonii, II., 1100, 50; Arimnesti, I., 388, 46; M. Artorii, II., 1196, 5; Caesaris ad Ariminum, II., 863, 26; Calpurniæ, II., 880, 23; Ciceronis de Octavio, II., 1053, 54; Cimonis, I., 585, 40; Cinnæ, II, 883, 26 (1184, 15); Cyziceni scribæ, I., 594, 45; Darii regis, II., 804, 40; Demetrii, II., 1077, 1.

[3] Appian. *De rebus punicis* 1.

[4] Appian. *De rebus punicis* 136.

[5] Appian. *De rebus syriacis* 56.

[6] Appian. *De bello mythridatico* 9.

[7] Appian. *De bello mythridatico* 27.

[8] Appian. *De bello mythridatico* 83.

instante morte,[1] Pompei de templo veneri victrici dicando,[2] Calpurniae de morte Cæsaris,[3] Octaviani de cavendis castris,[4] Elyssis.[5]

Later historians also relate dreams of this character. Thus, Ælius Lampridius says of the dream of Alexander Severus: "His mother dreamed on the eve of her marriage that she gave birth to a purple-colored dragon. The same night, his father dreamed that he had been carried aloft to Heaven upon the wings of the goddess of Victory, which occupied a place in the Roman senate-chamber."[6]

Zosimus cites one of the emperor Julian: "Whilst he was revolving these thoughts in his mind and was loath to begin a civil war, the gods revealed to him in a dream what should happen by showing him at Vienna, where he then chanced to be, the sun, which pointed to the other stars and recited to him the following verses:

'When beneath Aquarius, Jupiter shall stand,
When below the Virgin old Saturn shall shine,
Whose looks morose his surly temper brand,
Then shall the tomb open with speed for Constantine.'

"Giving no thought to this dream, he continued, as he was wont, to administer the public affairs."[7]

According to Herodianus, Antoninus Caracalla "repaired to Pergamus to try the remedies of Æsculapius, and passed a night in his temple as was the custom."[8] But the historian omits to say whether he recovered.

Finally, there is a legend connected with the founding of the city of Marseilles, containing a revelatory dream of a divine character:

"After the settlement of the coasts of Gaul by mariners from Phocæa, messengers were sent back to their native city. Before returning again to Gaul, they

---

[1] Appian. *De bellis civil.* I., 105.

[2] Appian. *De bello mythridatico* II., 69.

[3] Appian. *De bello mythridatico* II., 115.

[4] Appian. *De bello mythridatico* IV., 110.

[5] Appian. *De bello mythridatico* V., 116.

[6] Ælius Lampridius, *Alexandri Severi vita.* Ed. Nisard, 1846, p. 451.

[7] Zosimus, Ed. Glisard, p. 791.

[8] Herodianus, Lib. IV.

rested in Ephesus, where a woman announced to them that Diana, the great goddess of the Ephesians, had directed her in a dream to transport one of her statues to Gaul and to introduce her worship there,—a command which was carried out at the founding of the city of Massilia."[1]

It happened that subsequently Minerva, who also had an altar in the new city, gave protection to Massilia by threatening in a dream the king Catumand, who was besieging it at the head of an army. She appeared to him in terrible aspect and said in an angry voice: "I am a goddess, and I will protect this city." The frightened king concluded peace. In the city he afterwards recognised the statue of the goddess who had appeared to him in his dream, and he placed about her neck a collar of gold.[2]

In all these dreams, a very considerable portion is to be ascribed to legends made out of whole cloth, or at least greatly embellished, and a convincing proof of this is discoverable in the fact that with different authors, widely different versions of the same event are found.

The number of such dreams is quite limited, and their value is not great. Nevertheless, there is among many of them a certain similarity, this being especially so of the dreams of pregnant women respecting the destinies of their children; and where is there a mother who has not dreamed on this subject? Take for example the dream of the mother of Octavius, who, according to Alexander ab Alexandro, dreamed, while *enceinte*, that her intestines had fallen out and rolled over the entire world.[3]

Then, there are the dreams of victory or of death, which but re-echo the intensely real feelings of waking life, as did the dream of Gracchus, for example. Finally, in some cases, the dream itself has been a potent factor in determining the event it predicted.

There are also instances of dreams that are clearly prophetic, yet even here the agreement with reality does not appear extraordinary, when it is remembered that we have in this class abso-

[1] Strabo, I., 4, p. 179. Cf. A. Thierry, *Histoire des Gaulois*, 1862, T. I., pp. 138–139.

[2] Justinus, I., XLIII. c. 5. Cf. A. Thierry, *Histoire des Gaulois*, 1862. T. I., pp. 528–529.

[3] Alexander ab Alexandro, Book III.

lutely all the cases of coincidence which nations who believed in the prophetic value of dreams have been able to produce. And as for the literature of Greek and Roman antiquity on this subject, which at a distance seems so extensive, it is found on close scrutiny to be extremely meagre. What it appears to give in the sum-total is the impression of a unanimous and deep-seated confidence in the ancient heart respecting the prophetic value of dreams, from the thrall of which few men were able to escape. And it is not only the literature of antiquity with its fictions that exhibits this symptom; it is also, and notably so, the history of antiquity. Indeed, the history of the ancients itself is largely literature and fiction, and Herodotus does not differ greatly from Homer.

V.

If we examine the opinions entertained by the philosophers and physicians of antiquity upon this subject, it will be found that in general they appear to corroborate the popular beliefs.

Democritus, despite his system, was a believer in the prophetic value of dreams; according to him, it is possible for the images which haunt us in our sleep to reflect the states of the soul and the intentions of other people and so to reveal the future. We have here a species of telepathic revelation of the future. He makes one reservation to the effect that possible changes in the images of our dreams may prevent our assigning to them an absolute value.[1]

We do not know the views of Pythagoras. He thoroughly studied divination by dreams among the Egyptians, the Arabs, the Chaldæans, and the Hebrews; he took great interest in the magic of Egypt, where he spent twenty-two years, but it was not for the sake of their superstitions.[2] His disciples relate that their master sometimes conversed in his sleep with dead relatives, but he personally attributed no great significance to this fact.[3]

---

[1] Plutarch, *Quæst. conviv.* VIII., 10, 2; *Placita philos.* V., 2; Aristotle, *De div.* 2. 464a; Cicero, *De div.* I., 3. 5; Zeller, *Philosophie des Grecs*, French translation by Boutroux, Vol. II., p. 354.

[2] *καὶ οὐχὶ δεισιδαιμονίας ἕνεκα.*—Iamblichus, *Life of Pythagoras*, III., 14, IV., 18. 19.

[3] Iamblichus, *Life of Pythagoras*, 139, 148.

Diogenes rises above the common superstitions, and declares that although he entertained a high opinion of man when he contemplated the great thinkers, yet when he saw the interpreters of dreams, the soothsayers and their credulous patrons, he looked upon man as the most stupid of creatures.[1]

But, the following is the view of Hippocrates, which his disciple, Galen, has repeated word for word:[2]

"Among dreams, those which are of divine origin and presage either to cities or individuals fortunate or unfortunate events not incurred by the fault of the parties concerned, have their interpreters who are able to assign to them an exact meaning. There are also dreams in which the soul announces corporeal affections, be it excess of fulness or the evacuation of congenital things, or be it a change toward unaccustomed things, and these are explained by the same interpreters, who are sometimes deceived and who sometimes predict correctly, without knowing why they sometimes succeed and why they sometimes fail."

This is the work of a physician. Hippocrates also appears to have possessed a rather fantastic sort of symptomology. Thus, to see the moon, the sun, or the stars, was a sign of health; but if a star disappeared, particularly during a rain, this circumstance called for accurate and rigorous treatment, which varied according to whether the star that appeared was the sun, or the moon, etc.

The great philosophers held the same views with the great physicians. Plato remarks, in the ninth book of *The Republic*, that the dreams of virtuous men differed from the dreams of profligate men, and that accordingly dreams partook of the character of the individual. He was particularly firm in his faith in the prophetic value of dreams. The following is a specimen from the *Timæus*:[3]

"And herein is a proof that God has given the art of divination not to the wisdom, but to the foolishness, of man. No man, when in his wits, attains prophetic

---

[1] Diogenes Laertius, VI. 2. 4.

[2] *Ὁκόσα μὲν οὖν τῶν ἐννυπνίων θεῖά ἐστι, καὶ προσημαίνει τινὰ συμβησόμενα, ἢ πόλεσιν, ἢ τῷ ἰδιώτῃ λαῷ, ἢ κακὰ ἢ ἀγαθὰ μὴ δί αὐτῶν ἁμαρτίην, εἰσὶν οἳ κρίνουσι περι τῶν τοιούτων ἀκριβῆ τέχνην ἔχοντες· ὁκόσα δέ ἡ ψυχὴ τοῦ σώματος παθήματα προσημαίνει πλησμονῆς ἢ κενώσιος ὑπερβολὴν τῶν ξυμφύτων, ἢ μεταβολὴν τῶν ἀηθέων, κρίνουσι μὲν καὶ ταῦτα, καὶ τὰ μὲν τυγχάνουσι, τὰ δὲ ἁμαρτάνουσι, καὶ οὐδέτερα τούτων γινώσκουσι, δίοτι γένεται, οὐθ' ὅτι ἂν ἐπιτύχωσιν, οὐθ ὅτι ἂν ἁμάρτωσι.*—Hippocrates, *On Dreams*. Complete works, Ed. Littré. Baillière, Paris, 1881. Vol. VI., pp. 640–663.

[3] *Dialogues of Plato*, Jowett's translation, Vol. III., p. 493.

truth and inspiration; but when he receives the inspired word, either his intelligence is enthralled in sleep, or he is demented by some distemper or possession."

In the preceding views, Plato followed the teachings of his master Socrates, as he has expounded them in the *Republic* and as they are confirmed by Xenophon in the *Cyropædia*. The following is the passage from Plato:[1]

"When a man's pulse is healthy and temperate, and when before going to sleep he has awakened his rational powers, and fed them on noble thoughts and inquiries, collecting himself in meditation; after having first indulged his appetites neither too much nor too little, but just enough to lay them to sleep, and prevent them and their enjoyments and pains from interfering with the higher principle—which he leaves in the solitude of pure abstraction, free to contemplate and aspire to the knowledge of the unknown, whether in past, present, or future; when again he has allayed the passionate element, if he has a quarrel against any one,—I say, when, after pacifying the two irrational principles, he rouses up the third, which is reason, before he takes his rest, then, as you know, he attains truth most nearly, and is least likely to be the sport of fantastic and lawless visions."

The passage from Xenophon[2] reads as follows:

"You have remarked that nothing more resembles death than sleep, and it is in sleep that the soul of man is most divine. It even has dim presentiments of what takes place in the future, for in this state it possesses in fullest measure its liberty."

Like Plato, Aristotle also refers to the dreams of good people, which relate only to excellent things, being the echo of the thoughts which have occupied their minds before going to sleep. He says:

"The best Greeks have the best dreams, for the reason that their thoughts are occupied exclusively with excellent things during their waking hours. Those who have less excellent thoughts or less sound bodies have less excellent and less sound dreams; for the condition of the body contributes greatly to the images which appear to us in our dreams."[3]

Aristotle has been ranked among the partisans of prophetic dreams as well as among their adversaries,[4] and in point of fact his

---

[1] Plato, *Republic*, Jowett's translation, Vol. III., pp. 280–281.

[2] Xenophon, *Cyropædia*, VIII., 7, 319.

[3] Aristotle, *Problems*, French translation of Barthélemy-Saint-Hilaire, Paris, Hachette, 1891, Section XXX., paragraph 14, p. 345.

[4] Gassendi, *Phys. Lect.*, III., p. 423.

texts are nothing less than ambiguous on the subject. Aristotle admits that dreams may predetermine events by the knowledge which they furnish of them, also that divination may be successfully practised, though without seeing anything preternatural in these possibilities. "It is not inconsistent with reason," he says, "that the images which appear in dreams should be the cause of certain definite acts. Just as those who ought to do, who are wont to do, or who have frequently done, some certain thing, think of it day and night in dream-fashion, as it were, (for the occupations of the day prepare the way in a measure for such a movement of the thought), so, conversely, the majority of the movements which are executed in sleep become the determining principle of our actions during the day; for our train of thought has been checked at this point and has by the representations of the night prepared the way for the execution of the act. It is thus that certain dreams are causes or signs. But in the majority of cases the coincidences are fortuitous only, this being especially so in the case of those extraordinary dreams which exceed the bounds of human credibility; and all those which thus take place in us have for their subject-matter some such object as a naval battle, for example, or some other event which is not in any wise connected with our life."[1]

Let us not pass over this first indication of a higher and more accurate point of view, without observing that on this subject Aristotle differed completely from his master, Plato, and was the inaugurator of an entirely new idea.

We revert to the common belief with Herophilus, a physician of Ptolemy, who distinguished three species of dreams: the θεό-

---

[1] Ἀλλὰ μὴν καὶ ἐνιά γε τῶν καθ' ὕπνον φαντασμάτων αἴτια, εἶναι τῶν οἰκείων ἑκάστῳ πράξεων οὐκ ἄλογον· ὥσπερ γὰρ μέλλοντες πράττειν, καὶ ἐν ταῖς πράξεσιν ὄντες, ἢ πεπραχότες πάλαιας εὐθυονείρια τούτοις σύνεσμεν καὶ πράττομεν (αἴτιον δ' ὅτι, προωδοποιημένη τυγχάνει ἡ κίνησις ἀπο τῶν μεθ' ἡμέραν ἀρχῶν) οὕτω πάλιν ἀναγκαῖον καὶ τὰς καθ' ὕπνον κινήσεις πολλάκις ἀρχὴν εἶναι τῶν μεθ' ἡμέραν πράξεων διὰ τὸ προωδοποιῆσθαι πάλιν καὶ τούτων τὴν διάνοιαν ἐν τοῖς φαντάσμασι τοῖς νυκτερινοῖς. Οὕτω μὲν οὖν ἐνδέχεται τῶν ἐνυπνίων ἔνια καὶ σημεῖα καὶ αἴτια εἶναι τὰ δὲ πολλὰ συμτώμασιν ἔοικε, μάλιστα δὲ τὰ θ' ὑπερβατὰ πάντα, καὶ ὧν μὴν ἐν αὐτοῖς ἡ ἀρχὴ, ἀλλὰ περὶ ναυμαχίας, καὶ τῶν πόρρω συμβαινόντων ἐστίν.—Aristotle, *On Divination by Dreams*; Waddington, *La psychologie d'Aristote*, Paris, Joubert, 1848, chapter xiii., page 607.

πνευστοι, or those sent by God, the φυσικοί, or those created by the soul, and the συγκραματικοί, or mixed species.[1]

The philosopher Priscian, who flourished in the time of Justinian, also essayed an explanation. He found that the soul, being free during sleep from the bonds of the body, became stronger, more lucid, and more apt to entertain the divine visions which permitted it to prophesy and to predict the future. He propounds the following questions:

"If our soul is able to predict the future, why is it that it acquires this power over future events only in the periods when it is unconscious? What is the reason that certain people are able to make prophecies? Why is it that the knowledge which the soul has of future events during its waking hours does not possess the same certainty? And why is prophecy impossible in these hours?"

His answer is as follows:

"The mind, when freed from the body during dreams, may be judged by God worthy of the visions which he sends it,—a fact which was overlooked by Aristotle and by all his followers. The soul receives from God faculties which it possesses to the full. Thus, the soul, being purified and without corporeal dreams, receives intellectual revelations, and, by a sort of divine operation, as it were, predicts the future."[2]

Finally, according to Philo the Jew, there are, as Chaignet remarks, three sorts of dreams: The passive, or those invoked by God; the active, or spontaneous, where the soul is merged with the mind of the All and can predict the future; and the mixed dreams, where the soul is abandoned to a delirious enthusiasm, and prophesies in that state.[3] Philo says:

---

[1] Plutarch, *Placita phil.*, V., 2.

[2] "Si enim notitia animæ est, quare in tempore velut ignorantiæ et insensibilitatis dum sit ipsa, circa ea quæ futura sunt fortior et potentior est; unde et prophetias quasdam dicunt quidam; invigilando vero ipsa animæ notitia circa futura eandem firmitatem non habet, neque prophetat? . . . Si igitur segregatur corpore in somnis, digna fieri potest deo missis visionibus (et nunquid hoc videtur Aristoteli et quibusdam ex illius schola), et a deo missas operationes et virtutes accipit, quas pulcre habet et facile commixta intellectualibus. Unde et sine somnis anima corporalibus purgata intellectuales habet receptiones et cum divina quadam operatione prævidet futurum."—Priscian, *Scriptorum Graecorum Bibliotheca* (*Plotinus, Porphyrius, Proclus, and Priscianus*), Ed. Didot. Paris, 1855. Pp., 563 and 566.

[3] Chaignet, *Psychologie des Grecs*. III., page 459, note. Philo, *De somniis*, fragment from Josephus, Vol. II., page 667.

"In the treatise which precedes the present,[1] we spoke of dreams sent from heaven which are classed under the first species; in reference to which subject we delivered our opinion that the Deity sent the appearances which are beheld by man in dreams in accordance with the suggestions of his own nature.

"Now the second species is that in which our mind, being moved simultaneously with the mind of the universe, has appeared to be hurried away by itself and to be under the influence of divine impulses, so as to be rendered capable of comprehending beforehand and knowing by anticipation, some of the events of the future. . . . In describing the third species of dreams which are sent from God, we very naturally call on Moses as an ally, in order that as he learnt, having previously been ignorant, so he may instruct us who are also ignorant, concerning these signs, illustrating each separate one of them."[2]

There were few philosophers among the Romans, and these were not remarkable for their originality. Cicero[3] was but a populariser of Greek thought, and he limits his remarks mainly to a discussion of the Stoic belief in the prophetic value of dreams. Like Aristotle, by whom he was doubtless influenced, he finds it absurd that the gods should be at pains to give us the power to foresee the future during the night, and not during the day. He holds that it is impossible to distinguish true and divine dreams from those which are false and human. The obscure interpretations of the divine dreams appear to him to have not the slightest connexion with the dreams themselves. Why does dreaming of eggs, for example, presage the discovery of great treasures? Do not numbers of people dream of eggs without ever finding riches? And as for dreams that are less dubitable, it is probable that many of them are inventions, and hence not amenable to criticism.

---

[1] The treatise referred to has not been preserved.

[2] Ἡ μὲν οὖν πρὸ ταύτης γραφὴ περιεῖχε τοὺς κατὰ τὸ πρῶτον εἶδος ταττομένους τῶν ὀνείρων θεοπέμπτων, ἐφ' οὗ τὸ θεῖον ἐλέγομεν κατὰ τὴν ἰδίαν ὑποβολὴν τας ἐν τοῖς ὕπνοις ἐπιπέμπειν φανασίας.

Δεύτερον δὲ εἶδος ἐν ᾧ ὁ ἡμέτερος νοῦς τῷ τῶν ὅλων συγκινούμενος ἐξ ἑαυτοῦ κατέχεσθαί τε καὶ θεοφορεῖσθαι ἐδόκει, ὡς ἱκανὸς εἶναι προλαμβάνειν καὶ προγινώσκειν τι τῶν μελλόντων.

Τὸ τρίτον εἶδος τῶν θεοπέμπτων ὀνείρων ἀναγράφοντες εἰκότως ἂν ἐπίμαχον Μωϋσῆν καλοῖμεν, ἵνα, ὡς ἐμαθεν οὐκ εἰδὼς, ἀγνοοῦντας καὶ ἡμᾶς ἀναδιδάξῃ περὶ τῶν σημείων ἕκαστον αἰγάζων.—Philo Judæus, *Complete Works*, Leipsic, 1851. T. III. περὶ τοῦ θεοπέμπτους εἶναι τοὺς ὀνείρους. De eo quod a Deo mittuntur somnia. Two books. Pp. 225–344.

[3] *De divinatione*, Lib. II., 60–72.

Dreams are naught but the revivification of former sensory images, and their necessary and natural movement is in no wise connected with divination. Finally, the subtleties of the interpreters are expressly devised for the purpose of engaging assent, and accordingly there can be nothing like an experimental foundation for their suppositious science.

Lucretius assumes a similar attitude. Dreams for him are but the reappearance during sleep of the images which have occupied our thoughts during the day, and in confirmation of his theory he cites numerous examples. He says:

"The occupations which have principally held our attention during the day, those to which we have devoted ourselves with the greatest zeal, those to which the soul has applied itself with the greatest ardor, reappear in our sleep, and we abandon ourselves to them again, in that state."[1]

From Lucretius we may conclude what was the attitude of Epicurus toward this question.

* * *

Having reached the goal of our investigations, let us cast back a glance over the results which we have obtained, and endeavor to draw from them some of the conclusions which they contain. In so doing, we are immediately impressed by the fact that the origin of the belief in the prophetic value of dreams in Greek and Roman antiquity is lost in traditions which antedate the legends of Homer themselves; is prior, that is to say, to the invention of writing and to the origin of civilisation; and that, on the other hand, this belief was perpetuated throughout the ages down to the time of the decadence of the Roman empire, and that afterwards, by the mingling of the pagan myths with the traditions of Christianity, this belief was handed down to the civilisations of our own day. Philo the Jew stood at the confluence of these two currents of thought,—the current which emanated from the old Greek philosophers and that which came from the renovators of Judaism; and it is with the

[1] "Et quo quisque fere studio devinctus adhæret,
Aut quibus in rebus multum sumus ante morati
Atque in eo ratione fuit contenta magis mens,
In somnis eadem plerumque videmur obire."
—Lucretius, *De Natura Rerum*, Book IV., 962–966.

spirit of a philosopher impregnated with the ideas of Plato that Philo speaks of the Bible and of prophetic dreams.

If we examine the foundations of the belief of the ancients, we shall see that the facts, far from corroborating the belief, owe to the belief whatever validity they possess. In the sequel, they lent some re-enforcement to the belief, but at the origin the belief was far too strong to need their support. For minds who are already absolutely convinced, there is no necessity of proof, and demonstration can come only with criticism. One cannot, in fact, interpret the faith of the ancients in this regard as a proof that they had adequate grounds for accepting it.

The facts that we have related may still possess a value for persons who are antecedently convinced of the certainty of stories of this character, the falsity of which one can never prove. But a critical mind can attribute to them no value, for the reason that they can never be regarded as established. It is not permissible to invoke a new principle of explanation in nature, save when all other principles have failed; and in the present case certainly, embellished coincidences and legends which have afterwards crystallised about great historical events, do not appear to demand a supernatural intervention.

As for the ancients, on the other hand, their habits of mind naturally led them to regard the prophetic interpretation of dreams as a matter of course. But the less ground there was for the existence of this habit of mind, the greater the power it evinced. And having committed themselves to the most exaggerated imaginable symbolism, the ancients preferred accepting the mistakes made in the interpretation of dreams which were not realised, (and this was the general rule,) to renouncing their faith in the prophetic value of dreams, absolutely unfounded though this faith may have been. We are not, accordingly, justified in asserting that the origin of the belief in the prophetic value of dreams was based upon well-established instances of the realisation of dreams in some certain cases. The facts are subsequent to the belief, indeed were evoked by the belief, and acquired no significance until the belief was subjected to criticism and forced to seek its justification.

But if the belief was not based on reason from the start, why was it that those who made use of their reasoning powers failed to reject it? The reason is that the ancients, in all their thinking and philosophising, never followed the principle of the Cartesian doubt, never made a *tabula rasa* of their traditions and beliefs, never endeavored to erect structures of thought on foundations more solid and enduring than those already obtaining. They built with the data that had been handed down to them through each succeeding age, and devoted their energies rather to vindicating than to verifying their beliefs and superstitions. Hippocrates did good scientific work in the field of medicine, but he never attempted to extricate himself from the ideas of his environment. Outside the domain of medicine he remained a Greek, and as such was as much under the influence of their traditions as their laws. Even Cicero, who like Aristotle also took a determined and rational stand against the superstitious doctrines of the diviners and augurs, frequently gave evidence of sharing the common belief on this point. And possibly he actually did share it. For by vigorous critical effort and by enforced lucidity of thought one can escape momentarily from the thrall of superstitions that assert themselves in powerful and exaggerated form, while one is utterly unable to do so when they attack the mind silently and unawares. There is accordingly no ground for astonishment that among so many eminent thinkers there should have been only a few who, by the exercise of critical judgment and good sense, rejected the belief in the prophetic value of dreams; and, startling as the paradox may seem at first blush, that in Greek and Roman antiquity there exist neither facts sufficient to justify the prevalent belief in the prophetic value of dreams nor minds powerful enough to completely free themselves from this belief, it has nevertheless a claim on our indulgence.

N. VASCHIDE.
H. PIÉRON.

PARIS.

INTRODUCTION TO A PSYCHOLOGICAL STUDY OF RELIGION.

1. THIRTY years ago, in concluding his epoch-making work on *Primitive Culture*, Edward B. Tylor expressed his belief that the application of the ethnographical method to the study of religion—a method of which he may be said to have given the first important illustration—would be the next great renovating force of the science of religion and of theology.[1]

2. The recent past has richly fulfilled Tylor's prophecy, for it is to the ethnographical study of religion from the genetic, evolutionary, point of view that is due the most essential parts of the progress recently made in the science and in the philosophy of religion.[2]

3. But however successful the investigations of the evolutionary ethnographer have been, and will continue to be, the results that have so far been secured and those upon which we may yet count cannot but leave unanswered what seems to our generation the more vital and the more pressing religious questions. A great work has been done—as to the main lines of its general conclusions it may be said to be completed—and now men's thoughts are turning in a new direction, towards a new department of science which, they expect, will take up the task and carry it to another turning point.

---

[1] See *Primitive Culture*, Vol. II., p. 409.

[2] If we were to make a complete enumeration of the factors which contribute to the transformation now taking place in religious conceptions, the narrower, but substantial, results of the critical literary studies going under the name of *Higher Criticism* would call for particular mention.

4. The boundaries encompassing the student of what is usually called the *History of Religion* (including comparative ethnographical, genetic, and evolutionary studies), become apparent as soon as his task and the data with which he deals are clearly understood. Beliefs, rites, customs, ceremonials, as they are expressed in the social consciousness of a people, form his subject-matter. He is not concerned directly with the religious experiences of the individual, but only with the objectified products of it, as we see them in codes of worship and in the established social beliefs of a tribe or nation. He may therefore be able to tell us what are the original beliefs and the primitive worship; what is the order of succession in any given people, or in all peoples, of the community-beliefs and rites: he may show how certain of them have passed from one tribe to the other, as the result of conquest or of the pacific infiltration of mental habits of neighboring peoples or otherwise; he may compare these beliefs and practices as they exist contemporaneously among various peoples and as they are found also in the same people at various stages of culture; and in this comparison the more permanent and universal of them will separate themselves from the more temporary and local. This, the historical, comparative, method does. But it is beyond its scope to explain, for instance, why vicarious penances give satisfaction; why sexual rites are included in certain religious ceremonials, why religious feeling bursts forth at adolescence, why faith is a requirement of religious life, what the word *faith* means, why there are apparently individuals without religion and others who without religion could not, or would not, live. These and other questions of the same nature cannot be answered until we turn from the social religious manifestations to the *individual* religious consciousness, i. e., to the facts of *immediate religious experience.*

5. For brevity's sake we shall speak of the Psychological Method when referring to researches of the latter kind, although, to be accurate, the name should be *Individual* Psychological Method, since the researches which it is customary to call historical belong to the general field of Social Psychology.

6. It will not be a waste of time to show in detail how this psy-

chological method, with which a new chapter opens in the science of religion, differs from the social studies to which we are indebted for whatever knowledge has so far been acquired on religion, and what can be expected from it. Whatever differences exist between the two methods is a consequence of the fact that one deals with the *Community*-consciousness and the other with the *Individual*-consciousness.[1] The subject-matter of the latter is the feelings, the thoughts, the desires, the impulses, (as far as they enter into religion,) of the individual as he knows them *directly in himself;* while the former deals with the results of these desires, thoughts, and feelings, when they have been transformed in a process of social consolidation and set up as *objects* of belief (doctrines, beliefs), or as modes of worship (rites and ceremonials). The psychology of religion is concerned, for instance, with the actual feelings of sin, of repentance, of dependence, as you and I experience them; while the material of the various branches of the historical disciplines is the generalised beliefs, or rather a statement of the beliefs, of a social group, on sin, on repentance, or on dependence. The Calvinistic dogma that men are born in sin and doomed to everlasting perdition unless elected, and the actual twinge of conscience of a man acknowledging his moral uncleanliness and the consciousness of pardon which may follow, are, it is evident, facts of different species.

The most important remark to be made concerning these two classes of facts is that the former owes its existence to the latter: corporate religion finds its birth in the individual religious experiences, in the same sense as a political organisation owes its existence to the individuals composing it. Beliefs and ceremonials are, in a way, higher products resulting from the elemental experiences of the individual. This does not mean that the experiences of the individual are independent of the social group of which he is a part. But only that it is always through and in the separate individuals that the social organism comes to its realisation, either conscious, or unconscious. We may say therefore that the Psychology of Religion deals with the formative elements of corporate

[1] The term consciousness when applied to a community is evidently used in another sense than when referring to an individual.

religion, while the History of Religion deals with the complex products. There is here a difference similar to the one existing between the chemical elements, their properties, their modes of reaction and the complex chemical compounds. The problems of the one are not the problems of the other, and any effort devoted to the consideration of compounds, before the elements and their properties have been discovered, cannot possibly yield those important and speedy results which attend the endeavors of the scientist armed with the knowledge of the laws governing the action of the elements. And yet there is no way, at the start, before we know better, but to begin inquiries, in chemistry, upon highly complex substances and, in religion, upon social manifestations. The works of Spencer, Martineau, Caird, Pfleiderer, etc.,[1] belong to these preliminary attempts at a scientific and philosophical understanding of religion. We do not mention the pure historians whose purpose is merely to record the facts of corporate religion, and not to set forth its essence and its meaning; with him we have no business; his data are competent to answer the queries with which he sets out. Not so with the religious philosopher who, starting from data of the same kind, seeks in them answers to problems belonging properly to the individual psychology of religion. Why social come in point of time before individual studies, is too obvious to call for an explanation. We shall presently point out how incongruous and contradictory are the philosophical results of this unavoidably bungling beginning.

It seems to us that the chief problems of individual religious

[1] Psychological considerations on individual religious consciousness are to be found in a great many old and recent books, some of which bear inscribed on their title page the words "Psychology of Religion," "based on Psychology," or the like. But the little they contain on individual religion is so far from being systematically set forth, or of conforming in any other way to the scientific canon, that no mention is required of them here. There have been published, however, in the philosophical journals a number of papers inspired more or less by a true scientific spirit and proceeding from persons acquainted with the recent advance of psychological science. See in particular the two papers of E. Starbuck in the *American Journal of Psychology* for 1897, subsequently republished in book form (*The Psychology of Religion*), and the author's own contribution in the same journal for 1896, pp. 309–385.

life may be put down, summarily and in a provisory form, as follows:

1. What are the motives of the religious activities; what needs do they express and what ends do they secure?—Particular attention will have to be paid, when dealing with the meaning of religious activities, to the incongruity oftentimes existing between practices and the needs they are supposed to express and satisfy, or the end they are expected to reach. This will be especially necessary with reference to practices of long standing, having become habitual or, perhaps, even instinctive.

2. The problem of the means by which the religious impulses express themselves and through which the needs seek their satisfaction.—The word "means" includes in this sense both the religious practices and the conceptions regarding the agent or agents, or the channels by or through which religious satisfaction is sought. It is here that belongs the problem of the Idea of God and of the conception of the dual nature of the forces at play in the world, a conception which is at the basis of the differentiation of human activities into religious and non-religious. Here also may be placed the question of the influence of the impulses and needs upon beliefs and the reversed one of beliefs upon needs.

The genesis and the evolution of the religious motives, of the needs and of the means would be a part of these two large problems.

3. The relation existing between the means (practices and beliefs) used and the satisfaction they produce or are expected to produce. Otherwise expressed, it is the problem of the *efficacy* of the religious means. It involves the gigantic question of the motor power of ideas; it is a chapter of psycho-physiological dynamics. The reader familiar with the current literature on Religion may grasp more fully the purport of this problem, if we say that it is a restatement, from the positivist, scientific point of view, of what is usually termed, very inadequately, the investigation of the relation of man to God.

Contributions towards the solution of these questions would mean the discovery of a key to many a time-honored puzzle, such

as the reason of the universality and persistency of religion; the reason of the mongrel composition of religions; the apparent or real antagonism existing in particular religions between their several constituting elements and between them and secular activities, —science, for instance; the reason of the priceless value ascribed by many to religion and wherein it really lies at the various stages of its evolution and to what agencies its benefits are to be ascribed. The religious needs and their evolution, together with the source of their satisfaction, once known, it would become possible to intelligently encourage the transformation of existing religious forms that they may become better adapted to their function and to foresee their future.

14 Whether, and how thoroughly, these fundamental questions can be solved at present depends, it is evident, upon the degree of perfection reached by the general science of individual psychology. Although it is unfortunately true that that science is still in its infancy, the little it has already accomplished is sufficient to make the placing of religious life among the subjects for successful investigation a possibility.

15 Considered from the practical point of view, the psychology of religion may be expected to lay down foundations not only for a reformed dogmatics in closer agreement with the modern religious conscience, but also for a truer, and therefore a more effective, religious practice. To the Theologian and to the Pastor, a psychological investigation such as is here advocated is nothing less than a return to nature,[1] i. e., a return to the *ultimate* origin of religion. The cry for a return to the origin is a familiar one; it has been one of the usual watch-words of the Christian Reformers. But with us, as in other religions, it has come to mean nothing more than a return to the *primitive* practices and beliefs. The superstition of the perfect adequacy for all men and consequent finality of the archetype is still upon us; it is still an axiom with those who have remained within the Church. Thus it has come to pass that

[1] We use the word *nature* not as it is often done to distinguish the physical from the psychical world, but as embracing both; it is for us synonymous with *that which exists* in any and every order of existence.

religious consciousness is attired in the misfit garment of peoples of sensibilities and culture different from ours, nay, that it has in some measure been moulded by it, instead of itself shaping the garment. The psychology of religion is a return to nature *in its present truth*, a return to the ultimate fitness of things, through the investigation and critical study of the genuine needs of the individual and of the means that may best satisfy them. We hold this to be the question before us to-day. Guyau wrote a few years ago: "Formerly the question was whether religion is revealed or natural; to-day the question is whether religion is or is not true, whether it is or is not the product of an intellectual error, of a sort of inevitable optical illusion."[1] That the religious philosopher and scientist is to approach the religious problems from another, broader and more fertile point of view than the one which Guyau thought the latest and final one, will, we trust, be made clear in the sequel.

But we should not proceed further before having paid serious attention to the general conclusions reached by the religious philosophers. It has been a favorite custom with them to put up the concentrated results of their toil into little formulæ, commonly called *definitions* of religion. Although they evince most astonishing divergencies, extending even to hopeless contradiction, they will, when considered together and compared with each other, at least warn us away from certain false conceptions which have sadly obscured the view of otherwise clear-sighted men. It must be confessed that the definitions of religion would afford a happy topic for a malicious person bent upon showing the quackery of the Doctors in religion. Martineau, for instance, affirms that religion is "a belief in an Ever-living God, that is, in a Divine mind and will ruling the universe and holding moral relations with mankind"; Romanes chimes in and says: "To speak of the religion of the Unknowable, the religion of Cosmism, the religion of Humanity and so forth, where the personality of the First Cause is not recognised, is as unmeaning as it would be to speak of the love of a tri-

[1] Guyau, *L'irreligion de l'avenir*.

angle, or the rationality of the equator;"[1] but Brinton flatly contradicts them both, saying: "No mistake could be greater than to suppose that every creed must teach a belief in a God or Gods, in an immortal soul and in a Divine government of the world. . . . The religion of to-day which counts the largest number of adherents, Buddhism, rejects every one of these items."[2] Theologians anathematise atheistic science, while its champions claim that "true science and true religion are twin sisters . . . science prospers exactly in proportion as it is religious," etc.,[3] or that "the discipline of science is superior to that of our ordinary education because of the religious culture it gives."[4] And there are those who regard religion, even in its crudest beginning, as the admirable manifestation of God in man, while others call it bluntly superstition, or the product of an intellectual error unavoidable in the infancy of mankind but to be overgrown as soon as possible. There is the Religion of Humanity, the Religion of Art, the Religion of Science, the Religion of Reason, the Religion of Cosmism. The Doctors have not yet risen to the dull harmony of omniscient agreement!

On examining the definitions of Religion, one finds that a psychological classification in three groups makes room for them all. Several other classifications are possible.[5] We give the preference to the following, because it brings into relief better than any other the faulty psychology which enters for so large a share in this lamentable confusion of ideas about Religion. In the first a specific intellectual element is given as the essence or as the distinguishing mark of Religion; in the second, it is one or several specific feelings which are singled out as the Religious Differentia; while in the third group the active principle, the cravings, the desires, the impulses, the will, take the place occupied by the intel-

[1] G. J. Romanes, *Thoughts on Religion.*

[2] Brinton, *Religion of Primitive Peoples.*

[3] Huxley.

[4] Spencer's *Education.*

[5] See, for instance, that of Wundt (*Logic*, I., Chap. II.) in three groups: (1) the Autonomous theories (Schleiermacher's, for instance); (2) the Metaphysical theories (Spencer's and Hegel's); (3) the Ethical theory (Kant's).

lect or the feelings in the other classes. Religion becomes, in this view, an endeavor to realise a certain type of being, an instinct, a certain kind of actions, etc. Here are one or two definitions of each class by way of illustration, others will be found in the appendix.

Herbert Spencer finds the vital element of all religions in the realisation on the part of man, "that the existence of the world with all it contains and all which surrounds it is a mystery ever pressing for interpretation." We have already quoted Martineau. Romanes says, "Religion is a department of thought having for its objects a self-conscious and intelligent Being."—*Thoughts on Religion.* Goblet d'Alviella finds religion in "the belief in the existence of superhuman beings who interfere in a mysterious fashion in the destiny of man."—*The Idea of God.* Max Müller, whom we shall have occasion to quote later on, sees in religion the proof of the existence in man of a third faculty which he calls "simply" [!] the faculty of *apprehending the Infinite.*

In the second class the vital element is not a perception or a conception; it is not a matter of the intellect but of the feeling. Schleiermacher is the best known of the representatives of this class. He denied in his speech on "The Nature of Religion" the thesis reaffirmed subsequently by the intellectualist school. "Religion," said he, "cannot and will not originate in the pure impulse to know. What we feel and are conscious of in religious emotion is not the nature of things, but their operation upon us. What you may know or believe about the nature of things is far beneath the sphere of religion . . . any effort to penetrate into the nature or substance of things is no longer religion, but seeks to be a science of some sort." The peculiar sphere of religion according to him is feeling. "It is neither thinking nor acting, but intuition and feeling." And speaking of the conception of God and of immortality, he wrote, "only what in either is feeling and immediate consciousness, can belong to Religion." In a subsequent work (*The Doctrine of Faith*) he reaches the well-known definition: "Religion is a feeling of absolute dependence."

Daniel Greenleaf Thompson wrote: "Religion is the aggre-

gate of those sentiments in the human mind arising in connexion with the relations assumed to subsist between the order of nature (inclusive of the observer) and a postulated supernatural."—*The Religious Sentiment of the Human Mind.* And Herbart: "Sympathy with the universal dependence of men is the essential natural principle of all religion."—*Science of Education.*

We have here the attitude of Faust:

"Nenn's Glück! Herz! Liebe! Gott!
Ich habe keinen Namen
Dafür, Gefühl ist alles."

The glaring one-sidedness of the preceding definitions has gradually been recognised, and, to-day, there is a marked tendency to bring forward and place the emphasis upon the desires and the will.

To the third class belongs Bradley's definition; he writes in *Appearance and Reality*, p. 453: "We have found that the essence of religion is not knowledge, and this certainly does not mean that the essence consists barely in feeling. Religion is rather the attempt to express the complete reality of goodness through every aspect of our being." Those of Feuerbach, Schopenhauer, Comte, Edward Caird, A. Sabatier, Daniel Brinton, Réville, H. M. Stanley,[1] Henry, R. Marshall, fall also into this group. The recent book of the last named author, *Instinct and Reason*, is concerned chiefly with religion. In it Marshall maintains that religion is an instinct on the whole directly disadvantageous to the individual, but beneficial to the race in that the instinctive religious activities imply restraint of individualism and greater subordination to the will of the whole. It is because of this racial value that religion has survived and become instinctive. This view is, as to its essential features, the antithesis of Schleiermacher's. While the latter is at pains to convince us that religion is "pure subjectivity," that "religion is

[1] Stanley belongs rather to the second class. See his very suggestive paper in the *Psychological Review*, 1898, pp. 254–278, "On the Psychology of Religion." The reverential and worshipful emotion is for him the essence of Religion. The criticism we direct a little further on against Max Müller and Guyau is also applicable to him.

based on feeling alone," and that "by itself it does not urge men to activity at all," "it is morality which is based on action;" the former affirms that "the restraint of individual impulses to racial ones (the suppression of our will to a higher will)" seems "to be of the very essence of religion."[1]

In the third class might also be included the definitions of the few authors who refuse altogether to see in any one of the three partial manifestations of psychic life which we have been able to use separately as the basis of our classification, the particular *essence* of religion. The definitions of this type have so far acquired little influence for the reason that they have nowhere, as far as we are aware, been supported with a sufficient show of evidence, and especially because their meaning and the point of view they represent have not been systematically carried out into the problems of religious philosophy. The authors who have been ready to declare that "in the religious consciousness all sides of the whole personality participate," did not usually mean anything more than the truism admitted by everybody; they have none the less remained in an eccentric position. Pfleiderer, for instance, to whom belongs the quotation just made, writes soon after: "Of course we must recognise that knowing and willing are here [in religion] not ends in themselves, as in science and in morality, but rather subordinate to feeling, as the *real center* of religious consciousness."

How can so many different and even contradictory opinions be possible? How can they all be held and defended? It has no doubt occurred to the reader that the source of these divergences lies not so much in fundamental differences of opinion as to what in actual life deserves the name religion. On this we would find, we shall venture to say, most of our authors in agreement. It is to be found rather in a deficient understanding of psychical life in general. Intellectual curiosity, perception, reflexion, intuition, feel-

[1] *Instinct and Reason*, p. 329. The preceding quotations are not sufficiently comprehensive to do justice to the authors cited. They may even be misleading. To prevent misinterpretations, as well as to present with more fullness some of the most interesting and typical opinions on religion, we give in an Appendix to this paper a summary of several of them. We have, moreover, added a large number of concise definitions of religion.

ing, belief, desire, volition, instinct, etc.,—each author has evidently a different idea of the meaning of these words, or, at least, of the function in life of that which they designate. Let two persons agree as to their general psychology and they could not be very far apart in their understanding of religion. A large part of the necessary ground work of a Philosophy of Religion is furnished by general psychology and another part by the psychological analysis of those particular experiences or manifestations called Religion. This is recognised, at least tacitly, by all philosophers, since their books contain long psychological considerations to prepare the way for the generalisations. Not infrequently the "Philosophy of Religion" turns out to be little more than more or less crude and flighty discussions of social religious psychology. It should be then openly admitted that the equipment of the Philosopher of Religion includes the acquisitions of psychological science and the training which the study of that science gives; let it be recognised frankly that the gifts of the mystic, the learning of the theologian and of the historian of philosophical thought, and the acuteness of the metaphysician are not sufficient to the task. Let us cease to act as if we believed in the methodological principle of classical philosophy: let the superstructure be built, the foundation will take care of itself.

26 If the philosopher of religion has listened to the lesson of history, he will look for light to psychological science before he undertakes the task so many have failed to achieve.

27 In spite of their insufficiency—evident to any one not under the spells cast over the thinking world by the intellectualistic and by the affectivistic philosophy—the definitions of the first and second class are still those which meet with the widest acceptance. Intellectualism in religion offers a beautiful illustration of the power of a long-established idea to exclude others, even though they be not inconsistent with it, and thus make us blind to half the facts pressing for recognition. Max Müller, for instance, needed the assaults of criticism to perceive that a mere "perception of the Infinite" could not fairly be called a religion. In his Gifford Lectures of 1888 on *Natural Religion* he assents to the criticism to

which his definition had been subjected, and adds to it, by way of amendment, the clause: "A perception of the Infinite under such manifestations as are able to influence the moral character of man." "The fact," says he, "was that in my former writings I was chiefly concerned with dogmatic Religion. . . . Still, I plead guilty to not having laid sufficient emphasis on the practical side of Religion; I admit that mere theories about the Infinite, unless they influence human conduct, have no right to the name of Religion." But this truth, although formally recognised by him, never acquired in his mind the full meaning belonging to it. He continued to write as if a bit of metaphysical speculation could constitute a religion.

Guyau is, in this respect, no less interesting. At the beginning of his book, *L'irreligion de l'avenir*, as he states that sociality is the basis of religion, and as he passes in review the one-sided conceptions of some of his predecessors and declares that Schleiermacher's and Feuerbach's definitions should be superposed, the reader feels assured that he has cut loose from the intellectualistic point of view. "The religious sentiment," says he, "is primarily no doubt a feeling of dependence. But this feeeling of dependence, really to give birth to religion, must provoke in one a reaction,—a desire for deliverance." But Guyau, who, like Max Müller, is apparently able to see, when his attention is drawn to it, that an idea, a concept, a perception, in short, a mere intellectual fact, can by no means be singled out as the substance of religion, has nevertheless kept to the intellectualistic attitude. The conception which the book defends is that "religion is the outcome of an effort to explain all things—physical, metaphysical, and moral—by analogies drawn from human society, imaginatively and symbolically considered. In short it is a universal sociological hypothesis, mythical in form." An effort to *explain* is, for Guyau, the efficient cause of religion and an *explanation of the world's puzzle* is a religion. It is once again Spencer's definition with the addition of a statement concerning the analogy according to which the puzzle is explained. Guyau, like so many others, has succumbed to the most dangerous illusion besetting the philosopher. Nothing can be so real and so persistent to the thinker as thought; it may even become

the only reality. The artist, the voluptuary, the mystic, never lose sight of the feelings, because in feeling they find their life; the man of action cannot forget the impulses, the desires, the will; but the philosopher, who is so only by virtue of his intellectual activity, is constrained by the very nature of his employment to intellectuallistic one-sidedness, unless the Gods have poured upon him all the treasures of the horn of plenty.

It is not the place here to point out the defects of intellectualism and the errors which it fosters, but we may well mention in passing the points deserving of special attention in a study of religion.

1. The habit of the intellectualistic philosopher of looking at life from the eccentric, one-sided point of view which make sensations and ideas appear in the foreground and reduces everything else to insignificant dimness, makes it impossible for him to take sufficiently into account the existence of unconscious activities and of their influence upon thought and action. He does not see that consciousness follows oftener than it leads, that it is an intermittent and heterogeneous light. Therefore neither those manifestations of religious life which are instinctive, nor the import of the feelings and beliefs connected with them can be properly understood by him. It cannot be said, for instance, that the beliefs connected with the several religious ceremonies and practices express always adequately their meaning and their purpose. It is often quite otherwise. Religious actions often have their root in inherited tendencies, the *raison d'être* of which, if ever conscious, has now lapsed, partly or wholly into the unconscious. And the actual beliefs connected with these performances are similar in point of irrationality to the notions by which certain insane persons sometime try to explain and to justify to themselves their deeds or their imaginary experiences.

2. One of the most mischievous of the particular evils wrought in religion by intellectualism is that the question of the existence of God has been forced upon the attention of the students of religion as the paramount and sometimes as the only religious problem, to the detriment of other inquiries. An ontological problem

has become in most minds synonymous with the religious problem: "The province of the philosophy of religion is to furnish a rational ground for the belief in God," says Otto Pfleiderer; and Professor Ladd in his introduction to Lotze's *Philosophy of Religion* writes: "The philosophy of religion is, of course, primarily a speculative or theoretical treatment of the proofs for the being of God, of his attributes, and of his relations to the world of matter and finite spirits." This task is no more than a fragment of the philosophy of religion; but to this point we shall return at a more opportune moment, merely recording here an emphatic protest against this opinion.

33 It must be said further that the question of the "existence" of God is not the real problem; it lives upon the interest felt by man in another, the true problem which has been, in part at least, lost sight of by the professional thinkers. It has thus happened that men have come to deceive themselves into the belief that they really care for the existence of a Personal First Cause or of a Moral Order in itself, while that with which they are concerned is solely their relation, and that of the world in which they live, to these possible existences. We are absolutely indifferent to the fate of the First Cause in as long as our own fate and that of the world surrounding and affecting us is not at stake. For this most normal and rational trait we need not blush. The ultimate queries we want answered when we consider the question of the existence of God, or of a Moral Order is one or several of the following: Shall I get the meat and drink I want and for which I am willing to pray? Shall the dear one be healed by a divine hand? Shall I get the moral support, the sense of fellowship after which my weak flesh yearns? Shall the right ultimately triumph? Is the matrix of the Universe of flesh only or is it animated by a spirit kindred to mine, a spirit which has built and is leading this world so as to satisfy my highest longings for universal harmony? When this is recognised the classical problem of the existence of God, hardened and pressed into ruts as it has become by centuries of stubborn but well-nigh fruitless effort at its solution, assumes a fresher aspect and offers new points of attack. The foremost questions asked will now be:

What does man expect from the existences in which he would like to believe? Are the needs of humanity to be satisfied only by the existence of, or through the belief in, a particular Being or Order, or can they be satisfied otherwise?

If, leaving aside the question of the adequacy of religious definitions, we ask what the possible value of a definition might be, the most that can be said is that its highest usefulness would be the one belonging to a class-description. It would hardly be worth the labor which has been bestowed upon the matter. It is a misfortune that the time and the talent consecrated to this end have not been directed towards the discovery of a germinal principle instead of that of a description; a principle corresponding to the evolutionary principles in biology, for instance. And further, if one looks closely into these definitions, one is struck with the quite unnecessary emptiness of most of them. What is the use of saying with Bradley that religion is the attempt to express the complete reality of goodness through every aspect of our being? The Sunday School child, who says religion is all that is good and right, is just as enlightening. And what is it that is meant when this or that is called the "essence" of Religion? Does essence mean that which in itself is sufficient to constitute religion? No, that cannot be. The thought of God, or of the Universe, conceived of as a whole of which I am a part, or some other such idea, must be present when the "feeling of dependance" is experienced. Schleiermacher himself would affirm this. And no one would venture to maintain that belief in God is, in this first sense, the essence of religion. Or does the expression mean that which is found nowhere else in man's life? Not one of the definitions using the word "essence" could be made to agree with this second interpretation without extending the bounds of religion beyond what the author of the definition himself would admit. Is "essence" synonymous with "the most prominent conscious factor," or with "the most important part" of religion? How could this third opinion be maintained, seeing how men differ, how, for one man, the characteristic religious experience is a voluptuous trance obtained by the fixation of the attention upon Christ, or some other religious ob-

ject; while for another the deepest religious experience lies in the preparation and performance of a benevolent action. As to the several "factors" of religious experience, who has ever seriously tried to estimate their relative value or importance? How is it to be done?—The word "essence" had better be left unused; it does not add anything definite enough to make its presence desirable in a definition of religion.

The vacant term *relation* is often used without any attempt at defining the kind of relation meant. Sometimes the relation binds two Infinites. Max Müller, in his *Theosophy*, page 360, informs us that religion is a bridge between the visible and material world and the invisible and spiritual world. That bridge is described as establishing a relation between the Infinite man discovers in nature and the Infinite man discovers in himself. These Infinites are such particular stuffs that a special faculty is needed for their apprehension; "there will be and can be no rest till we admit that there is in man a third faculty which I call simply the faculty of apprehending the Infinite, not only in religion, but in all things—a power independent of sense and reason, a power in a certain sense contradicted by sense and reason, but yet a very real power." There is something in this passage which makes one think of the Cabala. Who would not look upon the following definitions as farcical? (And yet they are neither better nor worse than many a famous religious definition.) Commerce is acquisitiveness touched with a feeling of dependence, or, commerce is a business relation. Morality is a social relation, or, morality is a belief in virtue. Virtue is an absolute feeling of dependence upon truth; and the like *ad libitum*.

* * *

So much by way of criticism of religious definitions. And now along what route shall we proceed in our investigation of immediate religious experiences in order to reach a comprehensive understanding of religion? To find our cue we need only the guidance of the most significant and far-reaching achievement of modern psychology. It is the result of the co-operation of physiology and psychology and concerns the relation which has been found to exist between

what used to be called the "faculties" of the soul and physiological processes. When the conclusion that the reflex-arc was the type of all living activity had been reached; and when it had been discovered that sensations were necessarily correlated with stimuli travelling along afferent nerves (the first segment of the reflex-arc); thought, reflexion, with the central nervous activity (the middle segment of the reflex-arc), and the manifestations of the will, with the stimuli travelling outwardly along efferent nerves to the muscles; psychic life assumed at once a new aspect. It became evident that just as muscle-contraction (movement) is the natural and unavoidable end of a stimulus travelling along the reflex-arc, so on the psychic side, the will or the desire to act is the only normal end of consciousness; while thinking is seen to be in Wm. James's[1] words merely a "place of transit" indicating the existence of complex possibilities as to the action of which reflexion is a precursor.

As to feeling, the other "element" of psychical life, it is looked upon either as being an attribute or an independent accompaniment of other psychical experiences. But, however that may be, it is agreed that it does not exist independently. It is always experienced together with sensation or idea. We reach therefore the conclusion that neither thought nor feeling exist for themselves; they cannot be end in themselves, but exist only as part of a complex process ending in, or at least tending to, action—when objectively viewed.

Action and its psychical correlates and associates, craving, desiring, willing, which until the recognition of the psycho-physiological parallelism just stated was overshadowed by the intellect or the feelings, assumed from that time on a preponderant place in the theories of mental life. Schopenhauer, Wundt, and a host of younger men endeavored to recast the theories of psychic life around the will; they chose the word *Voluntarism* to characterise their point of view. But this elevation of the will to a prominent place means at the same time, as we have shown, its co-ordination with

---

[1] See his essay "Reflex-action and Theism" in *The Will to Believe and other Essays.*

the other psychic processes, since the co-relation existing between psychic life and the reflex-arc mechanism implies the organic unity of the triple psychical process. Neither one nor the other of the part-processes can be looked upon as the essence or the center of any particular pulse of psychic life; still less can any one of them be conceived as existing separately. To speak of any whole manifestation of life as being in its "essential" nature intellectual or affective or volitional, is to misconstrue the facts, for, although it is admitted that any expression of conscious life can be analysed into its successive moments, (sensation, reflective ideation, desires, impulses, will's determination, etc.,) and that one or the other of these constituents can be at times preponderantly present to the subject's consciousness, it does by no means follow that that particular pulse of life *is* an idea, or a volition, or a feeling, or that one or the other of these part-processes can properly be looked upon as the *essential nature* of the whole. A time sequence may exist, and, as a matter of fact, does exist: volition follows upon sensation and ideation. But this fact does not constitute volition the "essence" of psychic life. Such a deduction would be no better than the chemist's conclusion, that because water can be decomposed into hydrogen and oxygen, and that, from a certain point of view, oxygen is the most important of the two elements, therefore it is the characteristic component or the essence of water; and it would be no more correct for him to say that water, if considered as to its properties, is O+H. It is nothing of the kind: there is no likeness between the properties of the components and those of water. All this seems simple enough; it has become a matter of course to those who have been brought up in the atmosphere newly created by the psychological conception we have found necessary to outline above; but religious philosophy and religious science have so far, with insufficient exceptions, not yet undergone the recasting which its introduction makes necessary. Of this we have found abundant proof a little while ago.

In the sphere of religion this doctrine means not only that every pulse of religious life includes ideas and feelings but also that it finds its objective expression in action. The facts bear out this

conclusion. Religious life is found to manifest itself always and everywhere in actions, or at least in movements, as well as in thought and feeling. There is no experience of the individual consciousness which the subject is willing to call religious, which does not end in a deed.[1] Sacrificing, praying, the thousand and one fashions of worship, are outwardly perceivable religious actions. But even when there is no apparent external activity, even in the most "spiritual" worship, when the coarser outward appeal for help is not to be detected, even there religious experience finds its unavoidable bodily expression in an activity which can properly be regarded as the residuum of inhibited movements: prayer becomes a "lifting up of the heart to God," and the burning of incense is replaced by the "offering up" of one's talents, of one's life for Divine Service. In these subtle utterances of religious needs the final segment of the reflex-arc is just as surely, if not so obviously, present as in the offering of spotless lambs. There is, in the former as well as in the latter case, a will affirming a desire and the bodily concomitant thereof, i. e., movements, were it only the slight contractions and relaxations of the facial muscles making up a yearning countenance, inward speech, changes in the circulation of the blood, in the respiration, in secretions and all the varied muscular tensions which are part of the *in-tention* of the soul to reach God. These multiple activities are remnants of the once unrepressed and aggressive ways of men of lower civilisation when seeking assistance from the Divinity.

We have said that every pulse of religious life includes thinking and feeling. This is not always true. Inasmuch as action tends everywhere to become unconscious by habituation, we may expect to find at times certain religious activities performed automatically or instinctively. This point will receive consideration elsewhere.

The student of the psychology of religion has, then, before him as subject-matter complex psychological processes culminat-

---

[1] In making this statement we anticipate one of the conclusions to be reached later.

ing actually or prospectively in certain classes of action called religious activities.

This is the first point we desire to bring in unmistakable prominence. How deeply and variously the implications of this view affect the general problem of the "nature" of religion, will become apparent as we proceed. At present we shall simply find in this idea the guiding line we are looking for. The first question asked in presence of an action, or of a class of actions, we wish to understand, is what was its motive and what was its end. This procedure, followed in the humdrum business of life, is also the right one for the psychologist of religion. Our first queries will therefore be concerning the motive or motives and the end or ends of religion. Subsequently we will pass on to the consideration of the "channel," or "channels," through which the religious ends are realised.

It will be found that the religious impulses, the religious needs and the religious ends are also the impulses, the needs and the ends of other activities, that they are not the exclusive possession of religious life; while the conception of the channel, or, to put it otherwise, the conception of the causal characteristics of the religious agent differentiates religious from non-religious activities.

APPENDIX.

In this Appendix the reader will find a fuller critical exposition of the religious conceptions of Max Müller, Herbert Spencer, Schleiermacher and Henry R. Marshall, than the one which could find place in the body of the article. He will moreover find in it a number of opinions about religion taken from the works of other distinguished students of religion.

MAX MÜLLER.[1]

In the *Science of Religion* Max Müller wrote: Religion is "a mental faculty or disposition, which, independent of, nay in spite of, sense and reason, enables man to apprehend the Infinite under different names, and under varying disguises. Without that faculty, no religion, not even the lowest worship of idols and fetishes.

[1] The quotations are from the *Origin of Religion*, lectures delivered in 1878. and from *The Science of Religion*, lectures delivered in 1870.

would be possible; and if we will but listen attentively, we can hear in all religions a groaning of the spirit, a struggle to conceive the inconceivable, to utter the unutterable, a longing after the Infinite, a love of God." That faculty he calls "Faith."

The use made in this book of the term "faculty" was vigorously attacked, and, yielding in a measure to the objections raised, he declared in the *Origin of Religion* that he does not mean to say that there is a separate religious consciousness; "when we speak of faith as a religious faculty in man, all that we can mean is our ordinary consciousness so developed and modified as to enable us to take cognizance of religious objects. . . . This is not meant as a new sense, . . . it is simply the old consciousness applied to new objects." If "faculty" is an ambiguous or dangerous word, he is perfectly ready to replace it by "potential energy" and to define the subjective side of Religion as "the potential energy which enables man to apprehend the infinite." That "faculty" or "potential energy," also called "Faith," is, like reason, a development of sensuous perceptions, but one of another sort. The human mind, according to Max Müller, is made of three "faculties" or "potential energies": Sense, Reason, and Faith. The two last named being different developments of sensuous perceptions. "Our apprehension of the Infinite takes place independently of, nay in spite of, sense and reason. Their objects transcend the apprehensive and comprehensive powers of our sense and our reason. The facts of Religion, subjective and objective, can be explained only by an appeal to that third potential energy." "We have in that perception of the infinite the root of the whole historical development of the human faith." (P. 43.) He admits that at first it is far from a clear perception.

What does Max Müller mean by "perception" and what does he mean by "Infinite," the two words on which depends the sense of his definition? The value of his conception of Religion hangs, it is evident, upon the possibility of putting some kind of definite meaning into these words. The only critical remarks we want to make here bear upon these two words. Perception seems at times in Max Müller's writings to involve feeling; perhaps even to be nothing more than a feeling-state. At other times it seems to be synonymous with apprehension; three terms which to-day not even a beginner in psychological science would confuse. On page 43, of the *Origin* he writes, for instance, "with every finite perception there is a concomitant perception, or, if that word should seem too strong, a concomitant sentiment or presentiment of the infinite."

We have already said elsewhere that criticism made him see, in an insufficient way, that a simple "*perception* of the Infinite" could not be called a religion and that he added to his definition "under such manifestations as are able to influence the moral character of man."

As to what "Infinite" stands for in man's experience he cannot well say. The word is useful, however, because vague and mysterious; it does well in a statement on the nature of Religion. Spencer, it will be recalled, denies, in his *First Prin-*

ples, the possibility of thinking the Infinite, and therefore he holds that "Infinite" represents an illegitimate conception. At any rate, and whatever may be the meaning Max Müller was able to put for himself into that word, it is surely not communicated to the reader in any intelligible way. The only use of a word such as "Infinite" in a definition of Religion is to feed megalomania, an apparently unavoidable disease in man at a certain stage of self-consciousness. Those "who have no particular talent for the finite, but a general sense that the infinite is the right thing for them," will revel in the apprehension of the "Infinite," but as Felix Holt says of the Renés and Byrons, "they might as well boast of nausea as a proof of a strong inside."

It would have been difficult to frame a definition of Religion so impressive in appearance and at the same time so devoid of substance as the one to be found in the works of the learned Orientalist. If we have taken the trouble to examine it with some detail, it is only because it is still typical of the kind of ideas cherished by a large number of distinguished people, concerning the essence of Religion.

Herbert Spencer.

Herbert Spencer, in his *First Principles*, sets about reconciling Religion and Science upon terms of a real and permanent peace between them. It is this purpose which leads him to seek for the ultimate truth of Religion.

He begins with a critical examination of the essential religious conceptions, Atheism, Pantheism, Theism, and he finds that "when rigorously analysed they severally prove to be absolutely unthinkable." "Instead of disclosing a fundamental verity existing in each, our investigation seems rather to have shown that there is no fundamental verity contained in any." (P. 43.) But this is not his final conclusion: "We find [in every form of Religion] an hypothesis which is supposed to render the Universe comprehensible. Nay, even that which is commonly regarded as the negation of all Religion—even positive Atheism, comes within the definition; for it, too, in asserting the self-existence of Space, Matter, and Motion, which it regards as adequate causes of every appearance, propounds an *à priori* theory from which it holds the facts to be deducible. Now every theory tacitly asserts two things: first, that there is something to be explained; secondly, that such and such is the explanation. Hence, however widely different speculators may disagree in the solutions they give of the same problem, yet by implication they agree that there is a problem to be solved. Here then is an element which all creeds have in common. Religions, diametrically opposed in their overt dogmas, are yet perfectly at one in the tacit conviction that the existence of the world, with all it contains and all which surrounds it, is a mystery ever pressing for interpretation. On this point, if on no other, there is entire unanimity."

"That this is the vital element in all religions is further proved by the fact that it is the element which not only survives every change, but grows more distinct the more highly the religion is developed."

"Nor does the evidence end here. Not only is the omnipresence of something which passes comprehension, that most abstract belief which is common to all religions, which becomes the more distinct in proportion as they develop, and which remains after their discordant elements have been mutually cancelled; but it is that belief which the most unsparing criticism of each leaves unquestionable—or rather makes ever clearer. It has nothing to fear from the most inexorable logic; but, on the contrary, is a belief which the most inexorable logic shows to be more profoundly true than any religion supposes. For every religion, setting out though it does with the tacit assertion of a mystery, forthwith proceeds to give some solution of this mystery, and so asserts that it is not a mystery passing human comprehension. But an examination of the solutions they severally propound shows them to be uniformly invalid. The analysis of every possible hypothesis proves, not simply that no hypothesis is sufficient, but that no hypothesis is even thinkable. And thus the mystery, which all religions recognise, turns out to be a far more transcendent mystery than any of them suspect—not a relative, but an absolute, mystery.

"Here, then, is an ultimate religious truth of the highest possible certainty." (Pp. 43, 44, 45, 46.)

What the place occupied by the feeling is in this intellectualistic interpretation, is not altogether clear. But this at least is made evident: it is not the "vital element" of religion. The feelings which "respond" to religious ideas are the religious feelings.

The primary dependence of religion upon the recognition of the great Mystery is once more emphasised in the chapter on "The Reconciliation," in which he declares that what makes a religion become more religious is that it "rejects those definite and simple interpretations of nature previously given." "That which in religion is irreligious is, that, contradicting its deepest truth, it has all along professed to have some knowledge of that which transcends knowledge; and has so contradicted its own teachings," its supreme verity.

Müller and Spencer are not so far apart as the first impression might suggest. The differences between them are those separating men who would have reached the same conclusion if one of them had not remained entangled on the way. Max Müller affirms nothing which cannot be brought into substantial agreement with Spencer's opinion, provided the former be interpreted in the light of the clearer consciousness of the latter. Let, first, the words "perception," "apprehension," "sentiment," used interchangeably by the former be dismissed and replaced by "recognition"; and, secondly, let "Infinite" be interpreted as meaning the ultimate mystery of things and they will find themselves in agreement. This benevolent interpretation of Max Müller will not appear altogether illegitimate when we recall that he designates the faculty by which we apprehend the Infinite "Faith," and also that he sees no objection to regarding the Infinite as an object of "sentiment" rather than an object of "perception."

One critical remark only we shall pass upon Spencer's view of religion. Granted that there is a "Mystery ever pressing for interpretation"; granted also that man strives after its interpretation; the vital element of religion has not yet been reached. It will not be found until the further inquiry is answered: why that inquisitiveness of man? Why is it that having once recognised the Mystery he does not let it alone; why does he want to understand, to explain it? The answer to this question would bring us at least a step nearer the heart of the problem. Spencer stops short of it as the true intellectualist that he is.

SCHLEIERMACHER.[1]

To prevent a possible misunderstanding, let it be said at the start that Schleiermacher did not believe that feeling could exist independently of the other mental processes. He says explicitly of perception, feeling and activity, that "they are not identical and yet are inseparable."

Religion consists for Schleiermacher in certain feelings holding a definite relation to the life of action (Morality) and to the life of thought (Science, Philosophy). Religion is passivity, it is contemplation. By itself it does not urge men to activity at all. "If you could imagine it implanted in man quite alone, it would produce neither these nor any other deeds. The man . . . would not act, he would only feel." (P. 57.) If Religion does not belong to the world of action, it does not any more belong to the world of thought: "Religion cannot and will not originate in the pure impulse to know. What we feel and are conscious of in religious emotions is not the nature of things, but their operation upon us. What you may know or believe about the nature of things is far beneath the sphere of Religion." (P. 48.) He makes, very legitimately, a sharp distinction between the ideas which arise when the feelings are made the objects of reflexion and the feelings themselves: "If you call these ideas," says he, "religious principles and ideas, you are not in error. But do not forget that this is scientific treatment of Religion, knowledge about it, and not Religion itself." (Pp. 46 and 47.)

These two points, viz., that Religion is not morality and that it is not knowledge, are persistently emphasised in Schleiermacher's writings. It does not appear so clearly how the feelings which constitute Religion are generated and how they differ from the non-religious feelings. "Your feeling," says he, "is piety,—[a word for him synonymous with Religion]—in so far as it expresses . . . the being and life common to you and to the All." (P. 45.) Religion is the feeling produced upon us by any particular object, i. e., by any part of the Universe, *when it is received, felt, as a part of the whole*, "not as limited and in opposition to other

[1] The quotations will be chiefly from the second of the *Speeches on Religion* ("The Nature of Religion"), as translated from the 2nd edition by John Oman, London, 1893.

things, but as an exhibition of the Infinite in our life. Anything beyond this, any effort to penetrate into the nature and substance of things is no longer religion, but seeks to be a science of some sort." (P. 49.) A little further he tries again to describe the kind of apprehension which determines the religious feeling: "The sum total of Religion is to feel that, in its highest unity, everything that stirs our emotions is one in feeling; to feel that aught single and particular is only possible by means of this unity; to feel, that is to say, that our being and living is a being and living in and through God." He adds, "but it is not necessary that the Deity should be presented as also one distinct object." (P. 50.) Within the limits set in the preceding quotations, i. e., provided the feeling stirred by the particular object reveals the Unity of the Whole, every feeling is Religion. This, then, is clearly affirmed in the discourse on the "Nature of Religion," that it is the action of particular things upon us which underlies all religious emotions; we cannot "have" Religion unless it be through the influence exercised upon us by concrete, particular things.

In the *Christliche Glaubenslehre* Schleiermacher gives a definition of Religion differing in its wording from the one we have found in the *Reden*. It is in this later work that he reached the formula that has had so much success "the essence of religion consists in the feeling of an absolute dependence." To render fully his thought, the words "upon the Universe," or "upon God," should be added. This is simply an addition, not a negation, or even an alteration, of the earlier statement. He had said "Religion is feeling," it is the feeling generated in us by single experiences when viewed as intimations of the Whole of which they are parts. But he had not said what kind of feeling would be produced under these circumstances. In the *Glaubenslehre* he goes further and states that the intuition of the Whole through the presentation of a particular object produces a feeling of dependence. It will be a feeling of dependence because in these experiences man realises that the reaction called forth by the particular object is utterly insufficient, since at bottom it is a reaction by which he tries to meet, not the particular thing which has called it forth, but the Whole which it represents.

In his earlier writings Schleiermacher avoided the word "God" and was satisfied to use impersonal terms: the All, the Whole, the Universe, the Infinite. Later on the word God appeared and we find him making a distinction between the Universe and God which previously he does not seem to have had in mind. He distinguishes between the Whole as an aggregate of mutually conditioned parts of which we ourselves are one, and the Unity underneath this coherence which conditions all things and conditions our relations to the other parts of the Whole.

Schleiermacher agrees both with Max Müller and with Spencer in that (1) finds the essence or the vital element of religion outside of morality, (2) he separates religion from knowledge of the nature of things. Moreover all three recognise the Mystery. They differ in that Schleiermacher finds the substance of religion in the *feeling* our dependence upon the Universe excites in us, while Spe

considers the *recognition* of the Mystery the vital element. As to Max Müller he stands somewhere in the hazy between.

Henry Rutgers Marshall.[1]

In passing to Marshall, we enter upon new ground. Schleiermacher, Max Müller, and Spencer, in spite of considerable differences, evince at bottom a family resemblance; Marshall's view shows another pedigree. It reflects the tendency of recent psychology to turn from ideas and feelings to the actions of which they are the antecedents or the consequents.

Considering religion objectively, he concludes that it consists in those special activities which imply restraint of individualism, and that these activities, or at least the general tendencies from which they spring, are instructive. "The restraint of individualistic impulses to racial ones (the suppression of our will to a higher will) seems to me to be of the very essence of religion: the belief in the Deity, as usually found, being from the psychological point of view an attachment to, rather than of the essence of, the religious feeling." (P. 329.)[2]

Marshall's argument in support of the instructiveness of religion runs somewhat as follows: Religion is not, on the whole, advantageous to the individual; on the contrary it is in most cases clearly detrimental and would therefore not have remained as a factor in human societies if it was not advantageous to the race. As a matter of fact the religious activities are found on examination to be both detrimental to the individual and advantageous to the race. Now, the way in which practices of this description remain in general existence is through the survival of the fittest race. This implies the establishment of the practices, or at least of the tendencies, leading to them, as instinct.

It will appear in what precedes that Marshall includes under "Instinct" not only congenital activities *relatively definite*, as is commonly done, but also activities varying widely from each other. "The definiteness and the fixity of the actions is of very secondary moment, that which is important being the fact that there exists a biological end which determines the trend of these organised activities." It is only in this wider sense that religion may be called an instinct.

The theories put forth in *Instinct and Reason* concerning the nature and the function of religion are very interesting; they emphasise a side too much neglected, but they are not convincing. That religious activities are of value to the race, we may well believe, but that they are on the whole detrimental to the individual is by no means proven. This conclusion of our author seems the result of an insufficient investigation of religious life. A strong wish to put through a captivating

---

[1] *Instinct and Reason.* Macmillan, 1898.

[2] See, for comparison, Benjamin Kidd's *Social Evolution*, p. 103, and Hiram M. Stanley's paper "On the Psychology of Religion," in the *Psychological Review* for 1893.

theory may have closed his eyes to the many obvious facts which militate against his opinion. The facts upon which he places the emphasis, seclusion, vision, fasting, one side of prayer, one side of sacrifice, do not represent adequately religious life.

The instinctive nature of religion is by no means demonstrated in the long argumentation devoted to it. The whole matter turns, it seems to us, upon the meaning to be attached to the expression *the tendencies to the main drift* of the actions by which a particular biological end is realised. These tendencies alone and not the activities themselves, let us remember, need be instinctive in the opinion of the author. What the expression means is not very clear. In the only sense we can give it, every human activity whatsoever, and not only the religious one, may be said to be directed, in a way, by an instinctive tendency. If no more than this is meant, then, the statement that religion is instinctive is thoroughly commonplace and undoubtedly true.

Daniel G. Brinton.[1]

"There is no belief or set of beliefs which constitute a religion. We are apt to suppose that every creed must teach a belief in a God, or Gods, in an immortal soul and in a divine government of the World. . . . No mistake could be greater. The religion which to-day counts the largest number of adherents, Buddhism, rejects every one of these items." (P. 28.)

After reviewing the principal theories of the origin of Religion he expresses his own opinion as follows: "The real explanation of the origin of religion is simple and universal. . . . It makes no difference whether we analyse the superstitions of the rudest savages, or the lofty utterances of John the Evangelist or of Spinoza the 'God-intoxicated philosopher'; we shall find one and the same postulate to the faith of all.

"This universal postulate, the psychic origin of all religious thought, is the recognition, or, if you please, the assumption, *that conscious volition is the ultimate source of all Force.* It is the belief that behind the sensuous, phenomenal world, distinct from it, giving it form, existence and activity, lies the ultimate, invisible, immeasurable power of Mind, of conscious Will, of Intelligence, analogous in some way to our own; and,—mark this essential corollary,—*that man is in communication with it.*

"What the highest religions thus assume was likewise the foundation of the earliest and most primitive cults. The one universal trait amid their endless forms of expression was the unalterable faith in Mind, in the super-sensuous, as the ultimate source of all force, all life, all being." (Pp. 47 and 48.)

---

[1] The quotations are taken from "Religions of Primitive Peoples," the *American Lectures on the History of Religions* for 1896–1897. Putnam Sons. 1897.

In his earlier book, *The Religious Sentiment*, p. 79, Brinton gave the following definition: "Expectant attention directed toward an event not under known control, with a concomitant idea of Cause and Power."

HEGEL defines religion as "The knowledge possessed by the finite mind of its nature as absolute mind."

In the opening pages of the *Philosophy of Religion* he describes religion in an eloquent passage: "It is the realm where all enigmatical problems of the world are solved; where all contradictions of deep, musing thoughts are unveiled and all pangs of feeling soothed. . . . The whole manifold of human relations, activities, joys, everything that man values and esteems, wherein he seeks his happiness, his glory, and his pride—all find their final middle point in religion, in the thought, consciousness and feeling of God. God is therefore the beginning and the end of everything. . . . By means of religion man is placed in relation to this center, in which all his other relations converge, and is elevated to the realm of highest freedom, which is its own end and aim. This relation of freedom on the side of feeling is joy which we call beatitude; . . . on the side of activity its sole office is to manifest the honor and to reveal the glory of God, so that man in this relation is no longer chiefly concerned with himself, his own interests and vanity, but rather with the absolute end and aim."[1]

KANT. "Religion is (considered subjectively) the recognition of all our duties as divine commands."—*Die Religion innerhalb der Grenzen der blossen Vernunft*, Viertes Stück, erster Theil.

COMENIUS. "By religion we understand that inner veneration by which the mind of man attaches and binds itself to the supreme Godhead."—*Great Didactic* Keatings tr., p. 190.

HOBBES. "The natural seed of religion lies in these four things: the fear of spirits, ignorance of secondary causes, the conciliation of those fears and the assumption of accidents for omens."—*Leviathan, De Homine.*

HUME. "We may conclude therefore that in all nations the first ideas of religion arose not from a contemplation of the works of nature, but from a concern with regard to the events of life and fears which actuate the human mind."—*The Natural History of Religions.*

HERBART. "Sympathy with the universal dependence of men is the essential natural principle of all religion."—*Science of Education*, Felkin's tr., p. 171.

COMTE. "Religion, then, consists in regulating each one's individual nature, and forms the rallying point for all the separate individuals.

"To constitute a complete and durable harmony what is wanted is really to bind together man's inner nature by love and then to bind the man to the outer world by faith. Such, generally stated, is the necessary participation of the heart to the synthetical state, or unity, of the individual or the society."—*Catechism of Positive Religion*, pp. 46 and 51.

MARTINEAU understands by religion "the belief in an ever-living God, that is, in a Divine Mind and Will ruling the Universe and holding moral relations with mankind."—Introduction to *A Study of Religion.*

---

[1] Quoted from Sterrett's *Studies in Hegel's Philosophy of Religion.*

RÉVILLE. "Religion rests above all upon the need of man to realise an harmonious synthesis between his destiny and the opposing influences he meets in the world."—*La religion des peuples non-civilisés*, Vol. I., p. 120.

ROMANES. "The distinguishing features of any theory which can properly be termed a religion is that it should refer to the ultimate source or sources of things; that it should suppose this source to be an objective, intelligent, and personal nature. . . . To speak of the Religion of the Unknowable, the Religion of Cosmism, the Religion of Humanity and so forth, where the personality of the First Cause is not recognised, is as unmeaning as it would be to speak of the love of a triangle, or the rationality of the equator.

"Religion is a department of thought having for its object a self-conscious and intelligent Being."—*Thoughts on Religion*.

PFLEIDERER. "In the religious consciousness all sides of the whole personality participate. Of course we must recognise that knowing and willing are here not ends in themselves as in science and morality, but rather subordinated to feeling as the real centre of religious consciousness. . . . This is not a simple feeling but a combination of feelings of freedom and dependence."—"The Notion and Problem of the Philosophy of Religion," *Philos. Rev.*, Jan., 1893.

EDWARD CAIRD. "Without as yet attempting to define religion . . . we may go as far as to say that a man's religion is the expression of his ultimate attitude to the Universe, the summed-up meaning and purport of his whole consciousness of things."—*Evolution of Religion*, Vol. I., p. 30.

D. G. THOMPSON means by religion "the aggregate of those sentiments in the human mind arising in connexion with the relations assumed to subsist between the order of nature (inclusive of the observer) and a postulated supernatural."—*The Religious Sentiment of the Human Mind*.

JEVONS. "Religion as a form of thought is the perception of the invisible things of Him through the things that are made."—*History of Religion*.

BENJAMIN KIDD. "A religion is a form of belief providing an ultra-rational sanction for that large class of conduct in the individual where his interests and the interests of the social organism are antagonistic and by which the former are rendered subordinate to the latter in the general interests of the evolution which the race is undergoing."—*Social Evolution*, p. 103.

BRADLEY. "But, on the other side, we have found that the essence of religion is not knowledge. And this certainly does not mean that its essence consists barely in feeling. Religion is rather the attempt to express the complete reality of goodness through every aspect of our being. And, so far as it goes, it is at once something more, and therefore something higher, than philosophy."—*Appearance and Reality*, p. 453.

WM. JAMES. "A man's religious faith (whatever more special items of doctrine it may involve) means for me essentially his faith in the existence of an unseen order of some kind in which the riddles of the natural order may be found explained."—"Is Life Worth Living?" in *The Will to Believe and Other Essays*.

UPTON. "It is the felt relationship in which the finite self-consciousness stands to the immanent and universal ground of all being, which constitutes religion."—"The Basis of Religious Belief," *Hibbert Lectures* for 1893.

A. SABATIER. "That which we call religion in a man is the sentiment of the

relation in which he stands and wants to stand to the universal principle upon which he knows himself to be dependent, and to the universe itself of which he finds himself a part.

"A filial feeling towards God and a fraternal feeling towards man is what makes the Christian."—*Esquisse d'une philosophie de la religion d'après la psychologie et l'histoire*, pp. 183 and 185.

WM. RALPH INGE. "Our consciousness of the beyond is, I say, the raw material of all religion."—"Christian Mysticism," *Bampton Lectures* for 1899.

HIRAM M. STANLEY. "We take it then that religion must be biologically defined as a specific mode of reaction to high superiorities of environment, or psychologically as a perception of a highly superior being, leading to a peculiar mode of emotion and will toward that being, and thus securing the most advantageous action. . . . The reverential and worshipful emotion spent is the essence of religion, and wherever this is found among the lowest animals, or the highest specimens of mankind, there is religion."—"On the Psychology of Religion," *Psychol. Rev.*, 1898, p. 258.

RENAN. "My Religion is now as ever the progress of reason, in other words the progress of science."—Preface to *The Future of Science*.

J. H. LEUBA.

BRYN MAWR, PA.

THE RECENT DEVELOPMENT OF METHOD IN THEORETICAL PHYSICS.[1]

IN former centuries, the progress of science, as exhibited in the labors of its most gifted representatives, though continuous in its movement, was relatively slow, like the growth of an ancient Continental city to which industrious and enterprising citizens have kept constantly adding new and improved structures. The present century, on the other hand, with its steam and its telegraph, has impressed the stamp of its own nervous and restless activity upon the progress of science; so that the development of the physical sciences in recent times resembles rather the growth of a modern American city which has sprung in a few decades from an insignificant village to a great metropolis.

Leibnitz has been correctly described as the last man who was able to compass the entire knowledge of his age. True, there have not been wanting in recent times men who have evoked astonishment by the prodigious extent of their knowledge. I have but to mention here the name of Helmholtz, who was master alike of four different provinces of knowledge,—philosophy, mathematics, physics, and physiology. Yet even these four sciences, broad as is their extent, were limited and more or less related provinces only, of the grand total of human knowledge, which is immeasurably greater.

The consequence of this stupendous and rapid augmentation

---

[1] From the proceedings of the seventy-first congress of the *Gesellschaft deutscher Naturforscher und Aerzte*, held at Munich, September 17–23, 1899. Translated from the German by Thomas J. McCormack.

of our positive knowledge has been an exceedingly minute division of labor in science, approaching in intricacy the systems of some of our great modern factories. Unquestionably such a division of labor is favorable in an eminent degree, nay, even indispensable, to the rapid development of science; but it is no less certain that it carries with it the possibility of grave dangers. There is wanting to it that broad view of the whole which is an indispensable requisite of ideal scientific research, the aim of which is the discovery of new points of view, or of new combinations of old points of view. In order to offset this drawback as far as possible, it is unquestionably of advantage if some individual who is engaged in such specialised scientific work endeavors from time to time to present to the scientific public at large a survey of the development of the special provinces of knowledge in which he is working.

But such an undertaking is attended with grave difficulties. The infinitely extended chain of inferential or experimental investigation which has some definite result for its ultimate goal, does not lend itself to ready and synoptic comprehension save for persons who have made the pursuit of such trains of thought the labor of a lifetime. Then again, for the purpose of abbreviating phraseology and facilitating breadth of view, numerous strange and learned words have been introduced into science. And while on the one hand it would be out of place to exhaust the patience of one's readers by explaining all these new ideas before coming to one's real subject, on the other hand intelligibility is impossible without some account of them. Moreover, popular exposition cannot in itself be regarded as the main object; to make it such would unfailingly result in the emasculation of that rigor of deductive reasoning and in the abandonment of that exactitude which has justly become the distinguishing attribute and the pride of physical science. In selecting, therefore, for my present theme a popular presentation of the modes of development of theoretical physics in recent times, I am thoroughly conscious of the fact that my purpose is not attainable in that perfection in which my imagination has pictured it, and that I shall be able to offer but a rough outline of the most essential points only; whilst I shall also necessarily

afford frequent occasion for complaint in presenting many things which are perfectly known to all, but which I am obliged to touch upon to render my expositions complete.

* * *

The principal cause of the rapid development of physical science in recent times is unquestionably the discovery and perfection of suitable methods of investigation. In the experimental field, the methods are frequently quite automatic in their action, and the inquirer in a measure is merely obliged to furnish new material for his research, as a weaver supplies fresh thread for his loom. Thus, for example, the physicist merely investigates different new substances with respect to their tenacity, their electric resistance, etc., and then repeats his experimental work at the temperature of liquid hydrogen and again at that of Moissan's electric furnace. And the same statement holds true with regard to much of the work of chemistry. Of course, there is always a goodly measure of acumen still essential for determining the precise experimental conditions in which the investigations shall be successful.

The case is not so simple with the methods of theoretical physics; yet here too we may speak in a sense of automatic procedure.

The high importance attaching to correct method explains why men have reasoned not only concerning things, but also concerning the method of our reasoning concerning things. Thus arose the so-called theory of knowledge which, despite certain lingering traditions of the ancient and now tabooed metaphysics, is of the highest significance for science.

The development of scientific method is, so to speak, the skeleton which carries the development of the entire body of science. I shall, therefore, pay principal attention in the following pages to the development of methods, and shall make use of the actual results of science merely for the purpose of investigating these methods. The results are in their very nature better known and more easy to comprehend, whereas their methodological relationship is precisely what is in most need of investigation.

It is particularly fascinating to proceed from the retrospect of history to the outlook upon the scientific development of the future,

which is denied to us by the shortness of human life; but on this point I shall confess at the outset that I have only negative considerations to offer. I shall not be so presumptuous as even to think of lifting the veil that envelops the future; on the contrary, I shall adduce considerations which will serve rather as admonitions against positive and hasty conjectures concerning the future development of science.

* * *

If we scrutinise the development of theory closely, it will be immediately apparent that its course has been by no means so continuous as we might be inclined to believe, but rather that it is full of gaps and has not taken place, to appearances at least, along the simplest and most logical paths. Certain methods have frequently yielded the most beautiful results, and many persons have been tempted to believe that the development of science to the end of all time would consist in the systematic and unremitting application of them. But suddenly they begin to show indications of impotency, and all efforts are then bent upon discovering new and antagonistic methods. Then there usually arises a conflict between the adherents of the old method and those of the new. The point of view of the former is characterised by its opponent as antiquated and obsolete; whilst its upholders in their turn look down with scorn upon the innovators as perverters of true classical science.

This is a process, moreover, which is by no means restricted to theoretical physics, but to all appearances recurs in the history of every field of intellectual activity. Many doubtless believed in the days of Lessing, Schiller, and Goethe that the dramatic literature of the future was contained in all its possible manifestations potentially in the ideal poetical methods cultivated by these great masters; whereas to-day totally different methods of dramatic writing are employed, and the correct method has possibly not yet been reached.

In like manner in art the Impressionists and Secessionists stand arrayed against the old schools of painting, and the Wagnerian school of music against the schools of the ancient classical mas-

ters. There is accordingly no occasion for surprise that theoretical physics does not form an exception to this general law.

* * *

Building upon the labors of a number of gifted predecessors, Galileo and Newton erected a system which may be characterised as the real beginning of theoretical physics. Newton added to this system his great theory of the motion of the celestial bodies. He considered each of these bodies as a mathematical point, as, indeed, each of the fixed stars appears to be to the unaided eye. Between each two of these points a force of attraction acting inversely as the square of the distance and in the direction of the line of junction was conceived to operate. Assuming a like force as operative between every two of the material particles of bodies generally and applying the laws of motion which he had derived from the observation of terrestrial objects, Newton succeeded in deducing from one and the same law the motions of all the celestial bodies, the phenomena of gravitation, the tides, etc.

In consideration of Newton's marvellous success, the endeavors of his followers were bent toward explaining all the other phenomena of nature exclusively by Newton's method, under appropriate modifications and extensions. Starting from an ancient hypothesis which dates back to Democritus, they conceived bodies as aggregates of great numbers of material points called atoms. Between each two of these material points, there was supposed to act, besides the Newtonian attraction, a supplementary force, which at certain distances repelled and at others attracted, according as the requirements of explanation demanded.

The so-called principle of living forces was a contemporary contribution of mathematical inquiry. Every time that work is performed, that is to say, every time the point of application of a force is displaced through a certain distance in the direction of the force, a definite quantity of motion is supposedly produced, a quantity which is measured by a mathematical expression to which the name of *living force* was given. Exactly this quantity of motion does in reality make its appearance when the force acts uniformly upon all the particles of a body, as in the case of free descent,

but it makes its appearance in less amount when the forces act upon a few particles only and not upon the remainder, as in the case of friction and impact. In all occurrences of the last-named kind heat is generated instead. The hypothesis was then formed that heat, which prior to this had been regarded as a substance, was nothing less than an irregular relative motion of the smallest particles of bodies with respect to one another,—a motion which cannot be directly seen, since the particles in question are themselves invisible, but which is communicated to the minute material constituents of our nerves and evokes thus the sensation of heat.

The truth of the theory that the heat generated is in every case of necessity exactly proportional to the living force which is destroyed, a theory which was termed the principle of the equivalence of living force and heat, was in the outcome confirmed. Then the additional supposition was made that in solid bodies each and every particle oscillates about a definite position of equilibrium and that the configuration of these positions of equilibrium was determinative of the solid conformation of the body. In the case of liquids, these molecular movements were so brisk that the particles slipped by one another; evaporation was produced by the complete separation of the particles from the superficies of bodies, so that in gases and vapors the particles sped along on their paths mostly in rectilinear directions like bullets shot from a gun. Thus, for example, was explained with facility the occurrence of bodies in their ordinary three aggregate states, as were likewise many facts of physics and chemistry. It was a direct consequence of many of the properties of gases that their molecules could not possibly be material points; it was therefore supposed that they were more complicated aggregates of such points, possibly enveloped by integuments of ether.

In addition to the ponderable atoms constituting bodies, there was assumed the existence of a second substance composed of atoms much more minute,—namely, the luminiferous ether, by the transversal undulations of which were explained nearly all the phenomena of light which Newton had formerly ascribed to the emanation of specific luminous particles. There were still a few

difficult problems remaining, like that of the utter absence c tudinal waves in the luminous ether,—a form of undulatory which not only occurs in all ponderable bodies, but actual the leading part in their existence.

Our knowledge of the facts of electricity and magnetis enormously extended by Galvani, Volta, Oersted, Ampè others, and had been advanced by Faraday to virtual com With comparatively meager resources the latter inquirer earthed so marvellous a plenitude of facts that it long se if the task of the future would be entirely restricted to the tion and application of his discoveries.

Specific electric and magnetic fluids had long been co as the effective causes of the phenomena of electromag Ampère succeeded in explaining the phenomena of magne means of molecular electric currents, thus rendering the tion of magnetic fluids superfluous, while Wilhelm Weber pleted the theory of electric fluids as to simplify greatly th nation of all electromagnetic phenomena hitherto known. end, he conceived the electric fluids to be composed of min ticles, precisely as were ponderable bodies and the lumi ether; and between these electric particles he conceived fc act precisely similar to those which were operative betw particles of other substances, with the sole modification, i unessential, that the forces acting between every two elect ticles were also determined by the relative velocities and a tions.

Whereas thus in the preceding periods inquirers had as in addition to sensible matter, a caloriferous substance, a lu ous substance, two magnetic and two electric fluids, etc., n derable matter, the luminiferous ether, and the electric flui found to suffice. Each of these substances was conceive composed of atoms, and the peculiar task of physics for al time appeared to be definitively restricted to determining of operation of the *actio in distans* obtaining between each atoms and subsequently to integrating under the appurtenar

conditions the equations which flowed from these various interactions.

* * *

This was the state of development of theoretical physics when I began my studies. What marvellous changes have since been wrought! When I look back over the manifold developments and transformations that have taken place, I seem to myself like a veteran on the field of science; nay, I might even say that I alone am left of those who embraced the old doctrines heart and soul; at least I am the only one who is still sturdily battling for them. I look upon it, in fact, as the mission of my life to do my utmost, by clear, logical, and systematic exposition, to render the permanent and useful acquisitions of the old classical theory so secure that they shall not have to be discovered a second time,—a phenomenon which is not of isolated occurrence in the history of science.

I appear before you, therefore, as a reactionary and belated thinker, as a zealous champion of the old classical doctrines as opposed to the new. Nevertheless, I am convinced that I am no narrow-minded partisan, blind to the excellencies of the new theories, to which justice shall be rendered in the following pages as far as lies in my power; for I am only too well aware that like others I also see the things of this world as colored by the glasses of my own subjectivity.

* * *

The first onslaught upon the scientific system above described was directed toward its weakest point; namely, Weber's theory of electrodynamics. This was in a sense the flower of the intellectual labors of this gifted inquirer, who won undying renown by his numerous theoretical and experimental researches in the field of electrodynamic measurement. Yet, despite its great ingenuity and mathematical refinement, Weber's theory bears so distinctly the stamp of artificiality that but a few enthusiastic adherents doubtless ever reposed implicit confidence in it. Maxwell, an unqualified admirer of the labors of Weber, led the assault.

The labors of Maxwell enter into consideration here under two

points of view: first, under their epistemological aspect and secondly under their purely physical aspect. As to the first point of view, Maxwell distinctly indicates the danger involved in holding a theory of nature to be absolutely and exclusively correct because many consequences that follow deductively from it may happen to be confirmed by experience. He shows by numerous instances that one and the same group of phenomena frequently admits of explanation in two totally different ways; each method of explanation representing the facts as well as the other. It is not until new and hitherto unknown phenomena are adduced that the advantages of the one theory over the other are apparent, and even then the victorious theory may, on the discovery of further fresh facts, have to yield to a third theory.

Whilst the creators of the old classical physics, and far more so their successors, imagined that they had revealed the intimate nature of phenomena by their explanations, Maxwell claimed no more for his theory than its being a mere constructive representation of nature, or "mechanical analogy" as he terms it, enabling the imagination to depict in the simplest manner possible at the time all the phenomena concerned. We shall see what a beneficial effect this attitude of Maxwell's had on the further development of his theory. The victory for his theoretical ideas was immediately secured by their practical consequences.

We saw that all known electromagnetic phenomena had actually been explained by Weber's theory, which supposed electricity to consist of particles which acted directly upon one another at any distance without any intermediate agency. Stimulated by the ideas of Faraday, Maxwell constructed a theory which proceeded from a directly opposite point of view. According to his theory, every electric or magnetic body acted only upon the immediately adjacent particles of a medium filling all space, which particles acted in turn upon the next adjacent particles of the medium, until the action had been communicated to the neighboring body.

Known phenomena were explained as well by the one theory as by the other; but Maxwell's theory extended farther than the old one. According to his view, as soon as electric displacement

could be generated in sufficiently rapid succession, there would necessarily be produced in the medium, a wave motion which would exactly obey the laws governing the undulations of light. Maxwell accordingly surmised that rapid electric disturbances always took place in the particles of luminous bodies and that the vibrations thus evoked in the medium were what we know as light. The medium which is the vehicle of electromagnetic action is thus recognised as identical with the old luminiferous ether, and we may consequently give to it the same name, although it must necessarily possess many other properties in order to serve as the vehicle of electromagnetism.

The reason that no vibrations of this character were observed in the early experiments with electricity may perhaps be rendered plain by the following illustrations: Place the palm of your hand against a pendulum at rest; raise the pendulum slowly by gently pressing against it, and then let the hand fall slowly back in the opposite direction, finally withdrawing it altogether. The pendulum will follow the hand and execute a half vibration, but it will not swing up on the other side because the velocity imparted to it is too slight. The following may also serve as an illustration: Theory assumes that on plucking a stretched string, a point of the string is pulled out of the position of equilibrium, and then suddenly the entire string is left to itself. I did not believe this as a young student, but thought that the person plucking the string ought to impart to it an additional impulse, for in my first experiment in pushing the string aside with my finger and then withdrawing it in the direction in which the string would have vibrated, the latter emitted no sound. I did not see, that compared with the great velocity of oscillation of the string the movement of my finger was exceedingly slow, and so checked the movement of the string.

In like manner, in the old experiments the electrical oscillations were in all cases performed too slowly as compared with the enormous velocity of propagation of electricity. After many difficult preliminary experiments, the leading ideas of which he has himself set forth in the frankest manner, Hertz found certain experimental conditions in which electric states could be periodically

altered so rapidly that measurable waves were produced. Like all the productions of genius, their simplicity is remarkable, yet for reasons which are quite apparent I cannot enter here upon their detailed consideration. The waves which Hertz produced by electric discharges differ, as Maxwell had predicted, in no qualitative respect whatever from waves of light; but quantitatively the difference is prodigious.

As pitch in sound, so color in light is determined by the rapidity of the vibrations. In visible light about four hundred million million vibrations a second in the outermost red, and eight hundred million million in the outermost violet, are the extreme limits of the rates of vibration. For a long time it had been known that there were ether-waves of like nature having rates of vibration some twenty times less than those in the outermost red and some three times as great as those in the outermost violet. These are invisible to the eye, but the first or so-called ultra-red are perceptible by their thermal effects and the latter or the so-called ultra-violet by their chemical and phosphorescent effects. In the waves produced by Hertz by actual discharges, there took place in a second not more than about one thousand million vibrations, and Hertz's successors produced waves having a hundred times as many vibrations per second.

It stands to reason that vibrations that take place so slowly as compared with luminous vibrations cannot be seen directly by the eye. Hertz demonstrated their existence by means of microscopic sparks generated by them in appropriately-shaped conductors at great distances. These conductors may therefore be correctly termed "eyes" for Hertz's vibrations. With these means, Hertz confirmed Maxwell's theory in its minutest details, and although it was attempted to explain electric vibrations by the theory of action at a distance, the superiority of Maxwell's theory was soon universally admitted; indeed, the pendulum swung so far to the other side that the extremists ultimately came to speak of the incompetency of all the conceptions of the old classical theory of physics. But of this later. We shall first stop to speak a little more at length of these brilliant discoveries.

Of the various ether-waves that had been discovered before Hertz's time it was known that some passed more easily through one class of substances and others more easily through another. Thus, an aqueous solution of alum permits the passage of all visible rays but of only a few ultra-red rays; these ultra-red rays, on the other hand, penetrate solutions of iodine in carbon disulphide, which are absolutely impervious to visible light. Hertz's waves pass through almost all bodies with the exception of metals and electrolytes. Accordingly, when Marconi produced very short Hertzian waves in one place and translated them into the Morse alphabet at another several miles distant by means of an instrument which was but a modification of the apparatus which we call the "eye" for Hertz's waves, what he did was nothing more than to construct an ordinary optical telegraph; with this difference, that instead of employing waves of five hundred million million vibrations per second, he employed waves having but about one hundred thousand million vibrations in a second. The advantage of the last-named waves is that they pass with very slight diminution of power through fogs and even through masses of rocks. But they would no more be able to pass through a mountain of solid metal or through a fog of mercury globules than visible light would through an ordinary mountain or fog.

The variety of the forms of radiant energy known to us was still further enriched by the justly celebrated discovery of Roentgen's rays. These pass through all bodies, including metals, although in the latter case, as well as in that of metaliferous bodies and calcareous bones, their power is considerably diminished. The phenomena which had been demonstrated in connexion with all former kinds of radiant energy, namely, polarisation, interference, and refraction, were not observed in connexion with Roentgen's rays. If these were actually incapable of polarisation they would, if they were waves at all, necessarily be longitudinal. But the possibility even exists that they are incapable also of interference, and hence are not waves at all, which is the reason for our caution in speaking of Roentgen *rays* and not of Roentgen *waves*. If ever a body were discovered capable of polarising them, we should have

reason to regard them as qualitatively identical with light, but even in that event they would have to have a very much shorter period of vibration than even the outermost ultra-violet rays, or might possibly be made up, as some physicists are inclined to believe, of impulses following one another in rapid succession.

In view of this prodigious variety of form which rays exhibit, we might be inclined to pick a quarrel with our creator for having made our eye sensitive to so small a portion only of this vast domain; but as in all such cases we should do so unjustly, for never is more than a tiny portion of the great All of nature revealed directly to man, though in compensation his intellect has been rendered competent to acquire the knowledge of the rest by suitable effort.

If the Roentgen waves really were longitudinal waves of the luminiferous ether, which their discoverer was at first quite disposed to believe, and which has so far not been disproved by a single fact, we should be confronted with an interesting but by no means isolated incident in the history of science. The classical theoretical physics long ago perfected its views regarding the composition of the luminiferous ether. One thing only was wanting, as it was believed, for irrevocably confirming its correctness, namely, the presence of longitudinal waves in the ether. But these could not be made to appear. Now, after it has been proved that the luminiferous ether must have a substantially different constitution, since it is also the vehicle of electric and magnetic action, now I say, after the old theory of the constitution of the luminiferous ether has been exploded, we are on our hypothesis brought, *post festum* as it were, to the very verge of the long-desired confirmation, the discovery of the existence of longitudinal waves in the ether.

The case of Weber's theory of electrodynamics was similar. This theory rested, as we saw, upon the assumption that the action of electric charges depends on their relative motion, and just at the moment when the insufficiency of Weber's theory was definitively demonstrated Rowland found in Helmholtz's laboratory by direct experiment that moving charges of electricity act differently from

charges at rest. Formerly, scientists would have been inclined to accept this experimental result as a direct proof of the correctness of Weber's theory, but to-day it is known that it is not an *experimentum crucis*, but that it follows also from Maxwell's theory.

Furthermore, it follows from a modification of Weber's theory that not only the conductors carrying the currents but also the currents within the conductors must be deflected by the magnet. This phenomenon also, after having been long sought in vain, was discovered by the American physicist Hall at a time when the adherents of Weber's theory had suffered so many decisive defeats that even the thought of triumph over the new discovery was impossible.

Such things demonstrate the great caution that is necessary when one is tempted to look upon the confirmation of a consequence of a theory as a proof of its unconditional correctness. According to Maxwell's view, our mental representations, which have been made to conform to nature in certain instances, prove often to be automatically in accord with nature at many other points; but it does not necessarily follow from this that they are in accord with her at all points. The same considerations also go to show that even a wrong theory may prove of value by stimulating inquirers to new experiments.

It was demonstrated by the above-mentioned discoveries of Hertz, Roentgen, Rowland, and Hall, that Faraday had after all left something for his successors to discover. To these may be added a number of other recent discoveries, of which we shall mention here only the phenomenon of Zeeman with respect to the action of magnetism on the emission of light and the corresponding phenomenon of the action of magnetism on the absorption of light. All these phenomena, of which many were actually sought after by Faraday, could not have possibly been reached by the means at that investigator's disposal. Genius has frequently accomplished wonderful results with insignificant resources, but it is no less true that the human mind could never have achieved some of its noblest conquests save for the marvellous perfection to which physical apparatus and physical experimentation have been advanced in recent times.

The majority of the novel phenomena here described have been investigated as yet only superficially. The study of their details and of their relations to one another and to other known phenomena, their elaboration in the mechanical loom of physics, if I might hazard the phrase, opens for future generations a field of research which is apparently immeasurable. The many practical results which have already been obtained from them, at the very outset, as it were, (for example, the X-ray photography, wireless telegraphy, and radiotherapy,) give some inkling of the vast wealth of practical consequences which will be forthcoming upon a thorough-going exploitation of the details. But theory has been hard put to it by the new facts. The intellectual tranquillity into which she lapsed from her belief that she had comprehended everything has been rudely shaken, and no attempt has yet been successful to bring the new phenomena under so simple and satisfactory a point of view as the old. In fact, everything is still in a state of vacillation and fermentation.

* * *

This state of confusion was augmented by the combined influence of several other factors. In the first place are to be mentioned certain philosophical criticisms of the foundations of mechanics, which have been most distinctly formulated by Kirchhoff. The dualistic notions of force and matter had been unhesitatingly adopted by the old mechanics. Force was considered as an independent agent existing by the side of matter and the cause of all motion. Nay, the dispute even arose as to whether force existed at all in the sense that matter did, whether it was not rather a property of matter, or contrariwise whether matter should not be regarded as a product of force.

Kirchhoff was far from desiring to answer these questions. Doubtless he looked upon the entire method of formulating the problem as futile and inept. Yet in order to be dispensed from expressing his opinion upon the value of such metaphysical inquiries he declared it his purpose to eschew absolutely these obscure notions and to confine the task of mechanics to the simplest and most

unequivocal possible description of the motions of bodies, without consideration of their metaphysical origin. In his *Mechanics*, therefore, he speaks only of material points and of the mathematical expressions by which the laws of their motion are formulated; the notion of force is omitted altogether. Napoleon once exclaimed in the vault of the Capuchins at Vienna: "All is vanity save force;" but Kirchhoff in a single page of printed matter absolutely eliminated force from nature, putting to shame even that German professor of whom Karl Moor relates that despite his physical impotency he had the audacity to treat of the nature of force yet not to destroy it.

Kirchhoff afterwards reintroduced the word force, but only as an abbreviated designation for certain algebraic expressions which constantly occur in the description of motion, and not as a metaphysical notion. The attempt was afterwards repeatedly made to enhance the significance of this word, especially with reference to the analogy afforded by the feeling of muscular effort which is so familiar to man, but the old obscure formulations and conceptions will doubtless never recur again in science.

* * *

It was not Kirchhoff's purpose to alter in any way the subject-matter of the old classical mechanics; his reformation was a purely formal one. Hertz went much farther; and while nearly all subsequent authors have closely followed Kirchhoff's mode of exposition, sometimes imitating, unfortunately, his phraseology rather than his spirit, no such destiny has been allotted to Hertz's ideas. I have frequently heard Hertz's mechanics highly praised, but so far I have seen no one treading in the paths which he marked out.

To my knowledge, attention has never been called to the fact that a characteristic conception of Kirchhoff's mechanics, pushed to its last consequences, leads directly to the ideas of Hertz. Kirchhoff limits his definition of the most important concept of mechanics, that of mass, altogether to the case where arbitrary equations of condition exist between the material points. In this case the necessity of the factor designated by him as mass is clearly

seen. In the remaining cases, where the motion of the material points is not restricted by equations of condition, as in the old effects produced by forces, (for example, in the theory of elasticity, in aeromechanics, etc.,) Kirchhoff's concept of mass is intangible and the consequent obscurity is entirely removed only by excluding the last-mentioned cases.

This Hertz did. The most important forces of the old mechanics were forces acting directly at a distance between every two material particles. The question of the metaphysical cause of this action at a distance Kirchhoff abolished from mechanics; but he admitted motions which took place exactly as if these forces were in existence. Now, as we have seen, the conviction prevails to-day that electric and mechanical effects are transmitted by the agency of a medium. There remains thus naught but molecular forces and gravitation, which last even its discoverer Newton assumed to be probably due to the action of a medium. The molecular forces may approximately be replaced in solid bodies by the condition of invariability of form, and in liquid bodies by the invariability of volume. And while no successful attempt has as yet been made to replace elasticity, the expansive force of compressible liquids, chemical forces and forces of crystallisation, by like conditions; yet Hertz was doubtless convinced that such efforts would ultimately be crowned with success, and advancing beyond Kirchhoff he rejected even motions which took place as if the old forces existed, admitting only motions for which such conditions obtained as complied with certain formal mathematical definitions which he laid down. The only other principle which he employs for the construction of his mechanics is a law of motion which represents a special case of Gauss's principle of least constraint.

In sum, Kirchhoff merely interdicted inquiry as to the *causes* of the motions that had formerly been ascribed to forces acting at a distance, while Hertz abolished these motions themselves and sought to explain forces by equations of condition, thus directly inverting the method that had formerly prevailed of explaining the conditions of motion by forces. Hertz, therefore, made a far more serious attempt than Kirchhoff to conquer the difficulties inhering

in the concept of force. And he created in so doing a remarkably simple system of mechanics, which flows from very few principles, alike logical and natural in their character. Unfortunately, at the very moment of its enunciation, his lips were sealed forever in death, and the thousands of questions which certainly not I alone would fain have directed to him for enlightenment, must remain unanswered.

It will be understood from what has been said that certain phenomena, such as the free movement of rigid systems, follow readily from Hertz's theory. For other phenomena Hertz is obliged to assume the existence of invisible masses. The motions of these invisible masses determine by their interposition the motions of the visible masses, rendering the explanation of their laws of motion possible; they are consequently the counterparts of the invisible medium that produces electromechanic and gravitational phenomena. But what shape are these unknown elemental masses to take in our minds? And is it always possible for us to reach our goal by their agency? It is not permissible to assign to them the structural composition of the old media or even that of the luminiferous ether of Maxwell, for the reason that in all these media the precise forces are supposed to act which Hertz excluded.

Even in the very simplest mechanical problems the systems of invisible masses required by Hertz's theory are disproportionately intricate; and I am consequently inclined to attribute to this theory a purely scholastic value only.

Hertz's mechanics appears to me, therefore, more in the nature of a program for the distant future. If we should ever be successful in explaining in a simple manner all the phenomena of nature by such invisible motions as Hertz has described, then the old mechanics would be displaced by Hertz's system. But until that time comes the old system is the only one which is qualified to explain all the phenomena lucidly and satisfactorily without recourse to agents which are not only concealed from our sight but are also absolutely beyond our range of conception.

In his book on mechanics Hertz gave in a sense the finishing touch not only to the mathematico-physical ideas of Kirchhoff, but

also to the epistemology of Maxwell. Maxwell termed the hypothesis of Weber a *real* physical theory, meaning that its author claimed for it objective validity, whereas he ascribed to his own performance merely the value of constructive representations of phenomena. Starting from this point, Hertz impresses very distinctly upon the minds of physicists a principle with which philosophers had doubtless long been familiar, that no theory represents something absolutely objective, something absolutely coincident with nature, but that on the contrary every theory is a mental representation only of phenomena, and that it bears the same relation to the things it represents as a symbol does to the things it symbolises.

It follows from this that the object set us is not to discover an absolutely correct theory, but rather to light upon some constructive model which shall be as simple as the circumstances admit and represent the phenomena most adequately. In fact, it is not inconceivable that two quite different theories should exist which are equally simple and which accord equally well with the phenomena, and which therefore, although they are totally different, are yet equally correct. The assertion that a given theory is the only correct one is merely the expression of our subjective conviction that there is no other theory so simple and according so well with the facts.

Numerous questions which formerly appeared unfathomable are rendered nugatory from this point of view. How is it possible, it was said formerly, for a force to emanate from a material point, which is nothing but an intellectual entity? How can any combination of points furnish extension? And so on. Now we know that not only forces, but material points also, are mere mental representations. The points cannot possibly be equivalent to extended objects, but they may represent them to any degree of approximation we wish. The question whether matter is composed of atoms or is a continuum, is reduced to the far clearer question of whether the concept of an enormously large number of individual entities is calculated to furnish a more perfect mental representation of phenomena than the concept of a continuum.

We have been speaking in the main of mechanics. A revolution which affected the entire domain of physics, as distinguished from mechanics proper, was inaugurated in connexion with the rapid growth in import and scope of the principle of energy. We have already referred incidentally to this principle as one of those deductive consequences of the mechanical philosophy which had been verified by experience. According to this philosophy, energy is a perfectly familiar mathematical expression, absolutely devoid of mysticism and composed in quite definite manner of magnitudes which had been admitted earlier into the science (namely, mass, velocity, force, and distance); and since the philosophy in question regards heat, electricity, etc., as forms of motion, even while granting that these forms are as yet imperfectly known in character, it was inclined to see in the principle of energy merely an important confirmation of its conclusions.

Evidence of appreciation of this principle is met with, in fact, in the very infancy of mechanics. Leibnitz spoke of the substantial nature of force, by which he meant energy, in language which might have been used by the most recent champions of the doctrine. In inelastic impact, however, deformation, disruption of coherence and texture, the bending of springs, etc., are conceived as the products of living force; that heat is a form of energy Leibnitz has not the slightest inkling. As to the facts, therefore, Dubois Reymond is entirely in the wrong when he again seeks to belittle Robert Mayer in his commemorative address on Helmholtz, and denies to Mayer the priority of the discovery of the equivalence of heat and mechanical work. As for Mayer, he was by no means an advocate of the view that heat was a motion of molecules; he looked upon heat rather as an entirely new form of energy and contended merely for its equivalence with mechanical energy. Even the physicists who espoused the molecular theory, foremost among them Clausius, sharply distinguished between the theorems which follow exclusively from this view (special thermodynamics) and those which are deducible from established facts of experience independently of any hypothesis regarding the nature of heat (general thermodynamics).

But special thermodynamics, after a succession of brilliant discoveries, was suddenly checked in its career by the difficulties encompassing the mathematical treatment of molecular motions. General thermodynamics, on the other hand, achieved remarkable results. It was found that the temperature determined the occasion and the proportion in which heat and work are transformed. The increment of heat added turned out to be the product of the so-called absolute temperature into the increment of a second function which after Clausius was termed entropy. From this were deduced, principally by Gibbs, new functions, like that which afterwards received the name of thermodynamic potential at constant temperature, constant pressure, etc., and by their assistance the most surprising results were reached in the most varied fields, as in chemistry, capillarity, etc.

It was found, further, that equations of analogous form obtained also for the transformation of other forms of energy, electric, magnetic, radiant, etc., into one another; and that in particular it was also possible to decompose each form of energy into two factors,—a procedure which was attended with no less success. This roused the enthusiasm of a certain group of inquirers, who styled themselves energeticians, to such a pitch that they immediately declared for absolute rupture with the old ideas, contending that it was fallacious to infer the identity of heat and living force from their equivalence, apparently unaware that the theorem of equivalence was not the only argument in favor of this proposition.

The concept of energy is regarded by the new physical philosophy as the only correct point of departure for physical investigation. The principle that each form is decomposable into two factors, together with the theorem of variation connected with it, are regarded as the fundamental law of all nature. Every mechanical illustration designed to explain why energy assumes such and such curious forms and follows in each of them substantially different, though analogous, laws, they regard not only as redundant but even as detrimental; and the problem of physics, nay, of all natural science, for all time to come, is conceived by them to consist exclusively in the description of the deportment of energy in all its

forms, to be in fine a natural history of energy,—an ideal which, if the totality of natural action go by the name of energy, is nothing less than tautological.

The analogies in the deportment of the different forms of energy are beyond question of the greatest significance and interest, and their systematic study must be considered as one of the most beautiful tasks of physics. The importance of the concept of energy also doubtless justifies the attempt to select this principle as a starting-point. And it must further be admitted that the form of research designated classical theoretical physics frequently led to extravagances against which some sort of reaction was imperative. Every Tom, Dick, and Harry felt himself called upon to devise his own special combinations of atoms and vortices, and fancied in having done so that he had pried out the ultimate secrets of the Creator.

I know how helpful it is to consider the problems of science under the most varied aspects, and I have but the warmest sympathy for every original and enthusiastic undertaking in science. I therefore cordially extend to the secessionists my hand. But I was convinced that the energeticians had often suffered themselves to be deceived by superficial and merely formal analogies; that their laws lacked that lucidity and distinctness of form, and their deductions that rigor, which characterised the classical physics; and that they had discarded many elements of the old doctrines that were helpful, nay, even indispensable, to science. And furthermore, the controversy as to whether matter or energy was the only existing reality appeared to me to be a decided relapse to the old metaphysical point of view which we believed we had overcome, and a violation of the principle that all theoretical concepts are constructive images only.

In expressing without reserve my conviction on all these points, I imagined that I was demonstrating, in a far more helpful manner than by praise, my interest in the future development of the doctrine of energy. As in Hertz's mechanics, so in the doctrine that the entire body of physics is deducible from the two component factors of energy and the allied law of association, I

can accordingly discern nothing more than an ideal of the distant future. The latter alone can determine the question, which is today absolutely undecided, whether such a constructive theory of nature is better than the old, or is the best obtainable.

* * *

From the energeticians we come to the phenomenologists, who might be termed the moderate secessionists. Their philosophy arose as a reaction against the predominating tendency of the old view to regard the hypotheses concerning the composition of atoms as the real aim of scientific inquiry and the laws for visible phenomena resulting from these hypotheses as merely a means for controlling the same.

True, this tendency characterised only the extremest branch of the old school. We saw that even Clausius had made a rigorous distinction between general thermodynamics, which was independent of molecular hypotheses, and special thermodynamics. Many other physicists also, as for example Ampère, Franz Neumann, and Kirchhoff, dispensed with molecular theories in their deductions, although they did not deny the atomistic structure of matter.

There is very frequently found among the adherents of the old school a method of deduction which I would fain call the Euclidean, seeing that it is modelled upon the method of Euclid's geometry. A few theorems (axioms) are assumed either as self-evident or as established by experience; from these, certain simple elementary laws are then deduced as logical consequences, and from these finally the universal or integral laws are constructed.

This method, in combination with the ordinary deductive procedures of the molecular theory, seemed to satisfy tolerably well all the requirements that had hitherto been demanded of inquiry; but not so with Maxwell's theory of electromagnetism. In his first works, Maxwell conceived the medium that transmitted electromagnetism to be made up of a large number of molecules or at least individual mechanical units; but their structure took so complicated a form that they could not possibly lay claim to any

other validity than that of auxiliary conceptions for the discovery of equations, or that of ideal mechanisms producing effects in some way analogous to the phenomena of reality, certainly not that of definitive facsimile representations of what actually took place in nature. Subsequently, Maxwell showed that many other mechanisms besides those mentioned were capable of leading to the desired goal, provided they satisfied certain general conditions; but all endeavors to find some definite and very simple mechanism embodying all these conditions were fruitless. This paved the way for a doctrine which I believe may be most trenchantly characterised by our reverting a third time to Hertz's ideas. These, as found in the introduction to his treatise on the fundamental equations of electrodynamics, are quite typical of this theory.

Hertz did not seek for, at any rate did not find, a satisfactory mechanical explanation of these fundamental equations; but he also disdained to use the Euclidean mode of deduction. He correctly calls attention to the fact that in mechanics it is not the few experiments from which the mechanical equations are ordinarily derived, nor in electrodynamics the five or six fundamental experiments of Ampère, that have established in our minds the unshakable conviction of the truth of all these equations, but that rather it has been the subsequent complete agreement of these equations with the hitherto known facts of reality. He then delivers the Solomonic dictum that the wisest course is, after the equations are once in our possession, to write them down without any solicitude as to their deduction, and afterwards to compare them with the phenomena and to discern in their unvarying concordance with the facts the best demonstration of their truth.

The view here expressed in its extremest form met with the most varied reception. Some seemed inclined to look upon it as a piece of pleasantry. Others took the matter more seriously. Eschewing utterly the assistance of hypotheses and of visual or mechanical illustrations, they made it the sole goal of physics to write down for every group of phenomena the equations by means of which their behavior could be quantitatively calculated; its sole business consisted for them in the discovery by trial of the

simplest possible equations that fulfilled certain necessary formal conditions, as of isotropy, etc., and in the subsequent comparison of these equations with experience. This opinion is represented by the extreme wing of the phenomenologists, which I am tempted to call the mathematical wing. Mathematical phenomenology differs from general phenomenology. The latter seeks to describe every province of facts after the manner of natural history, by enumerating and delineating all the phenomena belonging to the province, without limitation of the means to be employed, but excluding any set philosophical doctrine, mechanical explanation, or other foundation. It is characterised by Mach in the statement that electricity is nothing more nor less than the sum-total of the experiences which have already been made in this domain and which there is hope of making in the future. Both branches of this school make it their aim to represent phenomena without going beyond experience.

Mathematical phenomenology fulfils primarily a practical need. The hypotheses by which the equations were originally reached were found to be precarious and subject to change; but the equations themselves, after they had been put to experimental test in a sufficiently large number of cases, remained intact, at least within certain limits of exactitude, beyond which they were in need neither of perfection nor refinement. If for practical purposes only, then, it is eminently desirable to divorce as absolutely as possible what is stable and established from what is vacillating and unfirm.

It must further be admitted, that the object of every science, and therefore also of physics, is perfectly attained when formulæ are found by which we can calculate in advance with uniqueness, certainty, and absolute accuracy, the phenomena which are going to happen. But it is to be remembered that this is just as unattainable an ideal as a knowledge of the laws of action and of the initial states of all atoms.

The assumption of phenomenology that nature can be represented mentally without proceeding at any point beyond experience, is in my opinion an illusion. No equation represents phenomena with absolute exactitude; they all idealise the phenomena;

they all emphasise the common features of the phenomena and neglect the divergent; they all, therefore, transcend experience. That this is necessary if our object is to attain conceptions that shall enable us to predict the future, follows from the very nature of thinking itself, which is but a process of adding something to experience and of creating a mental construct which is not experience and which therefore can represent many experiences.

Experience, says Goethe, is never more than half of experience. The more boldly we advance beyond experience, the broader the survey we obtain, the more surprising the facts we discover, but the greater the likelihood of our going astray. Phenomenology, therefore, should not make it its boast that it does not transcend experience, but should merely admonish inquirers not to transcend it too far.

The phenomenologists are also in error when they fancy that they have substituted no constructive images for nature. Numbers, their various relations and combinations, are as much constructive images as the geometric representations of mechanics. They are less exuberant, they are better adapted to quantitative representation, but on the other hand they are illy qualified for opening up new perspectives; in fine, they are very poor guideposts for discovery. And so, all the other conceptions employed by general phenomenology prove to be constructive images of phenomena. The best results, therefore, will doubtless be obtained by the employment of all the various methods of representation, each according as it is needed; care being taken to put our representations to fresh experimental tests at every step.

If this be done, there will be no danger of our overlooking facts through prepossession with our theories, as the atomists have been reproached with doing. This is a danger to which every theory is exposed, no matter what its character, when its special bias is pushed to the extreme. The difficulty therefore was due less to any distinctive feature of atomism than to the fact that inquirers had not been sufficiently forewarned against placing implicit confidence in their theories. It is no less impermissible for the mathematician to confound his formulæ with the truth, unless he also

would run the risk of becoming blinded to the facts. This is seen in the case of the phenomenologists when they refuse to take note of so many facts that are intelligible from the point of view of special thermodynamics alone; in the case of the opponents of atomism when they absolutely ignore everything that speaks in favor of their doctrine; nay, even in the case of Kirchhoff when, relying upon the applicability of his hydrodynamic equations, he held the inequality of pressure at different points of a heat-conducting gas to be impossible.

The mathematical phenomenologists naturally reverted to the concept of the continuity of matter, which had the support of appearances. I called to their attention the fact that by definition the differential equations which they used represented transitional limiting states, which were totally devoid of meaning without the assumption of a very large number of individual entities. An unthinking use of mathematical symbols only could ever have led us to separate differential equations from atomistic conceptions. As soon as it is clearly seen that the phenomenologists, under the veil of their differential equations, also proceed from atomistic entities, which they are obliged to conceive differently for every group of phenomena and as endowed now with these and now with those complicated properties, the need of a simplified and uniform atomistic doctrine will soon be felt again.

The energeticians and phenomenologists attributed the decline of the molecular theory to its unfruitfulness. Whereas this theory, in the opinion of some, had never done aught but injury, others admitted that it had originally been of great utility and that nearly all the equations which are now regarded by the mathematical phenomenologists as constituting physics were obtained by the methods of the molecular theory. The only contention of the phenomenologists was that now that we had acquired these equations the molecular theory was superfluous. All vowed its annihilation. They appealed to the historical principle that frequently opinions which are held in the highest esteem have been supplanted within a very short space of time by totally different theories; nay, even as St. Remigius the heathens, so now they exhorted the theoretical phys-

icists to consign to the flames the idols that but a moment previously they had worshipped.

But historical principles are sometimes double-edged weapons. History does no doubt often show revolutions which have been unforeseen; unquestionably, it is profitable to bear in mind the fact that what now seems to be most firmly established may possibly be supplanted by something entirely different; but it should also be borne in mind that some achievements may possibly remain the possessions of science for all time, though in a modified and perfected form. Indeed, by the very historical principle in question a definitive victory for the energeticians and phenomenologists would seem to be impossible, since their defeat would be immediately required by the fact of their success.

* * *

Following the example of Clausius, the adherents of special thermodynamics never disputed the high import of general thermodynamics; the successes of the latter science, therefore, prove nothing against the validity of the first. The question simply is whether there are not additional results which atomism only could have reached, and of such results the atomistic theory has had many remarkable specimens to show, even long after the period of its greatest glory. From the principles of purely molecular physics Van der Wals deduced a formula which gives the behavior of liquids, gases, and vapors, as well as of the various transitional forms of these aggregate states, with admirable approximation if not absolute decision, and which has led to many new results, as, for example, the theory of corresponding states. Considerations derived from molecular physics have just recently indicated the way for the improvement of this formula, and the hope is not a forlorn one that the behavior of the simplest chemical substances, namely argon, helium, etc., may soon be represented with absolute exactness; so that it is precisely the atomistic theory that has approached nearest to the ideal of the phenomenologists, namely that of a mathematical formula which shall embrace all physical states. To this has been added a kinetic theory of liquids.

Just as it formerly shed light on Avogadro's law, on th ture of ozone, etc., so recently the atomistic theory has contrib much to the illustration and elaboration of Gibbs's theory of d ciation, which, though found by a different method, was neve less reached by a process which took for granted the general fu mental concepts of the molecular theory. The atomistic th has not only supplied a new foundation for the equations of hy dynamics, but it has also shown where these equations and t for the conduction of heat are in need of correction. If pheno ology deems it expedient, as it certainly must, constantly to i tute new experiments for the purpose of discovering possible n sary corrections for its equations, atomism accomplishes much in this respect, in that it enables us to point definitely to the e riments which are in most likelihood of leading to these co tions.

So also the specifically molecular theory of the ratio o two specific heats of gases is to-day again playing an impo rôle. For the simplest gases, the molecules of which behave elastic spheres, Clausius had calculated this ratio to be $1\frac{2}{3}$, a which applied to none of the gases then known, from whic concluded that gases so simple in structure did not exist. W the molecules acted on impact like non-spherical elastic bo Maxwell found the value $1\frac{1}{3}$ for this ratio. But since the rati the best-known gases had the value 1.4, Maxwell likewise rej his theory. But he had overlooked the case in which the mole are symmetric with respect to one axis; for this case, the th also requires for the ratio the exact value 1.4.

The old value of Clausius, $1\frac{2}{3}$, had already been obt by Kundt and Warburg for mercury vapor, but owing to the culty of the experiment it had never been repeated and was al forgotten. But the same value, $1\frac{2}{3}$, for the ratio of the two sp heats again turned up in the case of all the new gases di ered by Lord Rayleigh and Ramsay, and all the other cir stances pointed, as they had done with mercury vapor, to th tremely simple molecular structure required by the theory. would have been the consequences for the history of the theo

gases, if Maxwell had not committed this slight inadvertence, or if all the new gases had been known at the time of Clausius's first calculation? All the values demanded by the theory for the ratio of the two thermal capacities of the simplest gases would have been actually corroborated by experiment.

I have to mention finally the relations which obtain according to the molecular theory between the principle of entropy and the calculus of probabilities, concerning the real significance of which there may be some difference of opinion, but which, no unprejudiced person will deny, are eminently qualified to extend our intellectual horizon and to suggest new combinations both of ideas and experiments.

All these achievements, and numerous earlier acquisitions of the atomistic theory, could not possibly have been reached either by phenomenology or by energetics, and I maintain that a theory which has produced so many independent results unattainable in any other way, and for which so many other physical, chemical, and crystallographical facts speak, is deserving of cultivation and not of antagonism. But as to our conceptions of the nature of molecules, here the greatest freedom must be allowed. Thus, the theory of the ratio of the specific heats must not be abandoned because it is not universally applicable, for the molecules behave like elastic bodies only in the simplest gases, and even in these not at the highest temperatures and only with respect to their impacts. As to their more intimate, and doubtless enormously intricate, composition, we possess as yet no clues; our efforts are to be bent rather on acquiring these. The precise determination and discussion of the equations, free from all hypotheses, is equally indispensable, and is an aim to be pursued coincidently with the atomistic method; but for this reason the one is not to elevate its mathematical formalism, or the other its atomic units, to the rank of dogmas.

* * *

To-day the battle of opinions rages tempestuously. Each holds his own to be the correct one, and it is well that he does so if his intention is but to pit its strength against that of its antagon-

advancement has
What will the outco
with the old forces,
persist in its main
the pages of histo
masses of Hertz, or
Are the essential cons
clusive of all modifica
is an atomistic theo
reign supreme in the f
that I have adduced, is th
most adequate representatio
Will the mechanical philosophy
by the discovery of some simple
luminiferous ether; w
all time; will new, non-m
; will the two component
the domain; will inquirers ulti
such natural agent as the sum of it
or will theory be transformed
and the discussion of the equ

that the conviction will ever arise tha
exempt from displacement by
ones, that they are "true"? (
conception of the future, to imagine so
absolutely no conception?

interesting questions. One regret
away before their decision. O arrogan
in the contemplation of the surging
the wisest course is to grapple with t
off cudgelling our brains as to wha
Has the waning century not achieved
accumulation of positive facts, a searching
the methods of research, these are its be
A Spartan martial chorus was wont to

to the nation's youths: Be more valorous than we! It has been an ancient custom of our land to invoke blessings upon the incoming century, and we can do so in the present case most appropriately, and with no less pride than the Spartans, by wishing that it may be greater and fraught with loftier significance than the departing one. Πατρὸς ἀμείνων.

LUDWIG BOLTZMANN.

LEIPSIC.

GOETHE AND KANT.[1]

IN the sky of the classical age of our literature shines with clear and all-surpassing splendor a group of three great stars: Kant, Goethe, Schiller. The thinker, who first set German philosophy upon its own feet, after a long tutelage and dependence upon foreign thought, and for more than a century determined the trend of thought of friends and opponents alike; the poets, who enriched German literature with materials of the finest culture, and by their most perfect artistic forms brought it to a par with the highest productions of poetic genius in other times and climes.

To trace out the relations of these three minds, so mighty and yet so different, is a task which has always appealed to investigators. But the material is not at hand for all questions alike that arise in this connexion, nor sufficient for positive conclusions. For the intimate community of spiritual life which existed from 1794 to 1805 between Schiller and Goethe, we have, aside from many other reports, their noble correspondence, which is itself one of the treasures of our literature. The influence of Kant's thought upon Schiller is evident to all. Schiller himself professed to be a pupil of Kant, despite certain points of difference, and won an important place in the history of Kantianism by his philosophical treatises. But it is different with the relation of Goethe to Kant. Even to the present day there is much uncertainty on this subject, due in part to the inconsistent attitude of Goethe toward philosophy in general. For while he himself once declared that he lacked the

[1] Translated from Professor Jodl's MS. by W. H. Carruth, of the University of Kansas.

faculty for philosophy in the strict sense of the word, wherefore he had always avoided it and taken the standpoint of sound common sense, there runs through his whole development a certain connexion with philosophy, "which he could never do without, yet could never adapt himself to." We have further to consider that Goethe himself, in familiar passages of his poetic autobiography and of his letters, confesses in the warmest manner the influence exercised by Spinoza on his philosophy of the universe. And this extreme antithesis of Kantian thought may be traced without difficulty in many poetic utterances of Goethe as well as in observations in his scientific writings. It was indeed inevitable, in the course of his association with Schiller, that Kant should have come within his ken; but the traces of any such influence seem to be lost very soon, and one who reads in the *Conversations with Eckermann* that it was a melancholy spectacle to see "how such an extraordinarily gifted man (Schiller is referred to) tormented himself with philosophical methods and systems which could be of no use to him," would scarcely feel encouraged to trace out the thread that leads from Goethe to Kant.

Thus it comes that the most of the numerous works on Goethe give no especial consideration to this point, and that Otto Harnack in his excellent book, *Goethe in der Epoche seiner Vollendung* (1882), could justly point out that the influence of Kant upon Goethe had not yet been properly estimated and presented. Loeper in his notes to the poems and epigrams and to other works had called attention to many points of contact between the poet and the philosopher, but it was reserved for a young Kantian in very recent times to gather for us by his enthusiasm and persevering labors the most abundant material for estimating the mutual relations of Goethe and Kant.

In the first three volumes of the journal *Kantstudien*, published by Vaihinger, K. Vorländer, of Solingen, depicts "Goethe's relation to Kant in its historical development," collecting and discussing in their yearly sequence all the utterances by and about Goethe that are at present attainable. By this very meritorious study, which has been conducted with the greatest philological precision,

[illegible] much light has been thrown upon this question, whose [illegible] was increased by the extraordinarily scattered conditio[n]s [illegible] sources, and a new revelation made of the admirable great[ness] [illegible] harmonicity of Goethe's mind. Vorländer, who is a pro[found] [illegible] neo-Kantian, may perhaps in the interpretation of his [illegible] material "Kantise" Goethe too much occasionally, and [illegible] justify the attempt of the present paper not only to [illegible] the most important conclusions of his treatise, but also to [illegible] the profound difference in their conceptions of the un[ity] [illegible] which separates Kant and Goethe despite all that they have [illegible] in common: an opposition which has lost neither its [illegible] nor its significance in the philosophic thought of to-day.

I.

On his return from Italy (1788) Goethe had found Kantianism [illegible] as a spiritual force in his immediate circle. The most [illegible] and enthusiastic apostle of Kant, the Viennese Karl Leonhard Reinhold, had been called in 1787 to the University of Jena [illegible] and forthwith established the critical philosophy there and [illegible] won for it decided academic triumphs. A few years before [illegible] his appointment certain prominent men of the University, among [whom] the philologue Schütz and the jurist Hufeland, had united in [the] establishment of the *Allgemeine Jenaische Litteraturzeitung* which took a decided stand for the new philosophy. Reinhold's [Briefe] *über die Kantische Philosophie* in the *Deutscher Merkur* amounted to a literary event. Naturally a mind like Goethe's could not ignore this movement, and we are not surprised to see Wieland announcing to Reinhold, who was his son-in-law, in February, 1789: "Goethe has been studying Kant's *Critique* (*of the Pure Reason*) for some time with great persistence. . . ."

Meantime the *Goethe Archiv* has brought to light a remarkable support for this "persistence,"—a manuscript in Goethe's own hand containing a careful abstract of Kant's book, and a considerable quantity of slips and separate sheets on which Goethe had noted down the doubts and objections which occurred to him as he read. The date of these notes is not surely known. It is

possible that they are a fruit of the increased interest in Kant and his philosophy aroused in Goethe by the *Critique of the Judgment.* We have his own testimony to the strong impression made by this work. He dates from this work of Kant "a very joyful period of his life." He observes that "the great leading thoughts of the work are quite in harmony with his own previous life, work and thinking." "The inner life of art as well as of nature, their reciprocal effects from within outwards were clearly expressed in the book. It declared that the products of these two boundless worlds existed only on their own account, and that, though co-existent and indeed naturally helpful, they were not designed on account of one another. . . . I am glad that poetry and comparative natural history are so nearly akin, both being subject to the same judgment." Moreover, Goethe himself testifies that the study of the *Critique of the Judgment* had again drawn his attention to the *Critique of the Pure Reason* and led him to hope to become more intimately acquainted with this work. He perceives correctly that the two works are pervaded by the same spirit and that they are mutually dependent.

This new relation to Kant is revived and deepened from 1794 on by the intimate personal association with Schiller, who had been impressed by the Kantian philosophy in Jena and had thoroughly assimilated the ethical and æsthetic features of it.

In the *Annals* for 1795 Goethe remarks that the association with Schiller is bringing him into ever closer relations with Kant's philosophy and the University of Jena, and by this fact he explains his gradual alienation from his former close friend, Herder, whose enthusiasm for the Kant of the pre-critical period had been changed by the development of the critical philosophy into an ever more violent antipathy. The correspondence of Goethe and Schiller shows clearly how this intercourse rouses in Goethe a growing interest in the philosophical development of Germany, and oral as well as written expressions of Goethe from a much later period prove also that he thoroughly appreciated the profound influence of philosophy upon the intellectual life of Germany. It is to Kant, in fact, that he attributes the overthrow of that "popular philos-

ophy" which he declared was so intolerable to him personally. We have also cordial expressions of Goethe's concerning Kant's ethics appreciating their influence in the history of civilisation and ascribing to them the immortal merit of having "redeemed us from that effeminacy into which we had fallen."

II.

Nevertheless there cannot be the slightest doubt that Goethe's intellectual nature was profoundly and inherently different from that of Kant. True, I do not find a single specific utterance of Goethe going to prove that he clearly saw the essential point from which all recognition or refutation of Kant's critical philosophy must proceed. This is, of course, the phenomenalism of the system. Did Kant succeed in giving the proof that there are actually synthetic judgments *a priori* in the sense meant by him? Do the qualities of sensation, space, time, the categorical structure of our thought, originate solely in the subject and his intellectual organism? No one who is dissatisfied with that proof can ever be called a Kantian, no matter how many individual points he may borrow from the mighty intellectual treasury of the Kantian philosophy. Nowhere do we meet in Goethe any attempt to free himself from the spell of this proof, which, strange to say, holds many minds enthralled to the present day, despite its great defects. Even when Herder's *Metakritik* against Kant appears, marshalling, though in a very inadequate form as to method, many very important thoughts on this capital point, we seek in vain for any word of approval from Goethe. On the contrary, as we learn from a letter to Schiller, he seems to have felt repelled by the undignified form of this attack, and to have acquired a sufficient conception of Kant's scientific importance to express to Schiller his conviction that the birth of the *Metakritik* had "not yet paralysed the sage of Königsberg upon his tripod."

But nothing could be more erroneous than to infer, from the circumstance that we find no attempt of Goethe's to clear up by scientific argument, his own notions of the foundation-thought of Kantianism that Goethe was ever really won over to this thought.

Such a critical examination was not indeed to be expected of the poet. But one who reads him with unbiased mind will not fail to find it after all. For Goethe's whole conception of nature, as it is to be seen in innumerable expressions of his poems, his epigrams, and his scientific works, is absolutely irreconcilable with the "Kantian point of view." From this point of view Nature is not a reality with an inner life of its own, but only a gigantic phenomenon of projection on the part of the Ego, the mind, in which the latter merely contemplates its own conformity to law under the symbol of an orderly universe. Above this world of phenomena with its conformity to law, which is for us at the same time a suggestion of the real world, because no other is evident to our senses, stands a supersensual world, of which we have knowledge in a way wholly independent and different from that of the senses: through the majesty of the moral law, that fact inexplicable from the world of sense, but testifying in our inner consciousness that man is the citizen of two worlds. The first, the world of sense, the object of our perceptions, is mere appearance; the other, the world of ideas, is real, the highest reality, but not the object of any perception. We can know nothing of it; can merely believe it.

Views of this sort, such a dualism of sensual and spiritual worlds, and such as is to be found in multitudinous ramifications throughout the whole critical philosophy of Kant, are wholly foreign to Goethe. His whole thought is supported by the conviction that Nature, as revealed to our senses, is an expression of the highest and all-embracing reality; that the Primal Being himself is no mere phenomenon; his whole poetic product is inspired by the feeling of the most intimate kinship, even of unity, of man and Nature, the feeling of most reverent gratitude toward her, the eternal mother, the feeling of fraternal relation with all her children from the simplest organisms up to man. It is true, Goethe also pointed out over and over again the limits of our knowledge of nature. It suggests directly the tendencies of the critical philosophy when he preaches self-restraint to the investigator; when he warns against "babbling theories, fancies, hasty blunders of an impatient understanding," when only the statement of problems is

called for; when he compares the inexplicable to a continued fraction,—if we try to solve it we only bring confusion into the problem. The sentence is often quoted: "the happiest state for a thinking man is to have fathomed the fathomable and calmly to revere the unfathomable."

Without doubt Kant influenced him in such views as these, as indeed he himself admits that he got much "for domestic use" from Kant. But when, at the height of the influence of Schiller and Kant, Goethe writes to Jacobi, Oct. 17, 1796: "You would no longer find me such a stubborn realist; it is a great advantage to me that I have become somewhat better acquainted with the other modes of thought, which, though I cannot make them mine, I need greatly in practical use to supplement my one-sidedness,"—this gives a very plain hint. No, those other views could never become his; the obstacle was what Schiller and Koerner once called the "sensual element" in Goethe's philosophy, and which, years after the death of both Kant and Schiller, came out in Goethe in a most typical fashion when young Schopenhauer, a zealous and thorough-going Kantian, tried to explain that light would cease to exist along with the seeing eye. "What!" he said, according to Schopenhauer's own report, "looking at him with his Jove-like eyes,"—"You should rather say that you would not exist if the light could not see you?" "This Goethe," Schopenhauer adds, "was such an utter realist that he could absolutely not conceive that objects exist only in so far as they are pictured by a perceiving subject."

Here is shown most pointedly the dividing line which, despite occasional critical warnings, separates Goethe from the critical philosophy as a system: the deep conviction of the objective and not merely subjective reality of the world that appears to our senses. In its totality it is an infinite problem for our cognition; but not because our cognition can nowhere attain to reality, but because the reality in the multiplicity and complexity of its processes everywhere exceeds the grasp of our finite thought. From this point of view it becomes perfectly intelligible why it was precisely the *Critique of the Judgment* that roused Goethe's interest in

Kant. And we should remember that this same work was the germ out of which grew later Schelling's system, particularly his philosophy of nature and his transcendental idealism, which were greeted with warm enthusiasm and toward which Goethe acknowledged a decided leaning. He found here invaluable support for a thought that had always been dear to him, that of the universal immanence of Mind in Nature. This hylozoism—so he himself names his views —made him unsusceptible, even intolerant, toward that view which makes dead matter an article of faith.

This was the reason of his opposition to the materialism of the *Système de la nature*, and he could not fail to see what life this new view gave to the Spinozism which he esteemed so highly. And the above-quoted expression of Goethe's concerning the effect upon himself of the *Critique of the Understanding* shows beyond all question that it was not the critical standpoint which he adopted, but rather the constructive—the thought with which Kant at the close of this work refers to what lies beyond and above it. The contemplation of organic nature seemed to end in a contradiction between the mechanical and the teleological interpretations. All investigation of nature must undertake the task of deriving organic and conscious life from unorganic existence. But this goal is unattainable. The adaptation of means to ends which we see in the organic world could be comprehensible to us only as the work of an intelligence which causes the mechanical forces of nature to work with design. But such an intelligence is nowhere apprehended in our experience. One argument seems to cancel the other, and thus to leave our knowledge of nature quite in the dark. In the midst of this darkness Kant sees a flash of light: Is it not possible that this contradiction is only apparent, existing only in our way of looking at the matter? Is it not possible that in the occult depths of nature the mechanical and the teleological connexions are united in one single principle, even though our reason be unable to give this principle an outward form?

I believe that this thought—one of the profoundest to be found in Kant—marks the point of the closest agreement between him and Goethe, and at the same time the point at which they begin to

separate. For from this point the road leads from criticism back to Giordano Bruno and Schelling's philosophy of identity. Here is the root of Goethe's notion and conception of Nature as God, the basic significance of which for his thought finds evidence in numerous expressions both in prose and verse from all periods, and this constitutes the keenest contrast to the absolutely transcendent conception of God in the Kantian system, a conception which has a moral, but no physical, significance.

Goethe was no philosopher in the scientific sense. But it is belittling him to represent him as the lackey of a philosophy which, despite its great features, bears so unmistakably the stamp of inadequacy as does the system of Kant. With his truly universal intellect, Goethe perceived in Kantianism its spiritual power, and adopted whatever suited him—which was indeed much. But he never was a Kantian, never could be one. Before his mind stood the outlines of a philosophy which he himself could only dream of as a poet, not put into scientific shape, or demonstrate systematically, but which, when it finds its Prometheus in the dawning century, will compare with the Kantian system as does clear sunshine to the mists of morning.

FRIEDRICH JODL.

VIENNA.

JEW AND GENTILE IN EARLY CHRISTIANITY.

CHRISTIANITY (as we have seen in a previous article on a kindred subject[1]) is the natural product of a historical process. When by the conquests of Alexander the Great the barriers which separated the nations of antiquity were broken down, national prejudices began to dwindle away, and the new intercourse and mutual contact of the nations resulted in a powerful fermentation in the minds of the people, which found expression in a peculiar species of religious syncretism that gradually spread over the whole Roman Empire. This movement, consisting in the hope of religious salvation through divine enlightenment (through Bodhi, as the Hindu calls it, or, as the Greek expressed it, through Gnosis), is in all its salient features pre-Christian, and the Nazarenes of Palestine (as well as the Essenes, the Ebionites, and the Zabbæans) are but characteristic expressions of the times, having their analogies in the therapeutæ of Egypt and the pre-Christian Gnostics of Syria.

The seeds of Gnosticism that were scattered among the Hebrew people, both in Palestine and in Babylon, fell upon good ground, as preparations had been made for their reception through great sufferings. Moreover, the Jews of the disaspora were naturally predisposed to be transmitters of new religious thoughts. They knew foreign languages and acted among the Gentiles as agents in business and commerce. In the history of religion, too, they play the important part of brokers, furnishing the nations with a stock exchange of philosophical thought.

For these reasons it is natural that Syria, Alexandria, and the

[1] "Gnosticism in its Relation to Christianity," *The Monist*, Vol. VIII., p. 502.

cities of Asia Minor, all of which were great centers of the Jewish disaspora, should become the seats of Gnostic teachings and of an anxious search for new truths.

The Jews came into the closest and most friendly contact with the Persians, one of the most ideal nations of antiquity, whose religious faith was free from idolatry of every kind and philosophically purer than any other religion. Ahura Mazda, the Lord Omniscient, was not worshipped after the manner of pagan adoration, for the Persians conceived him to be spirit without body. His appearance, if comparable to anything, was deemed to be most like the light, and his soul was defined as the truth. Life was regarded as a struggle between good and bad, in which we must take part. Zarathustra taught that a great crisis was at hand. The bad is powerful now, but in the end the good will conquer. Saviours arise from time to time, and at last *the* saviour (*saoshyaut*) will appear, the son of a virgin, and his name shall be Righteousness Incarnate. Then the great day of judgment will come which shall purge the world of all evil through the ordeal of molten metal. The new order of things will include those who have passed away; the dead shall be raised, but the future body (*tanû-i-pasîn*) will be so ethereal as to cast no shadow.

Even in the canonical literature of the Israelites, the Lord Omniscient (Ahura Mazda) of the Persians is identified with Jahveh; and Cyrus, the liberator from the Babylonian yoke, is greeted as the Messiah.[1]

How could the religion of the Jews remain uninfluenced by the Persian doctrines? If Babylonian beliefs and institutions, which constituted the religion of a hated oppressor, proved strong enough to modify the old traditions of Jahvehism and introduced new legends,[2] festivals,[3] and customs,[4] how natural it is that the purer

---

[1] Isaiah c. 43.

[2] The story of the creation in six days, the legends of the flood, of the destruction of impious cities by a rain of fire, the finding of Moses, etc.

[3] The Purim festival is a Judaised version of the celebration of Bel's victory over Tiamat. Marduk is Mordachai, Isthara is Esther.

[4] The institution of the Sabbath is of most ancient origin in Mesopotamia.

and more elevating Zarathustrian faith of the Persian liberators should have left its imprint upon the grateful minds of the Jews! We know, for instance, from the Septuagint that the Persian king Cyrus regulated the worship of the Lord (Ahur, or κύριος) in the temple of Jerusalem[1] according to Persian fashion, with an eternal light.

Mazdaism, the Persian religion, is a strict monotheism, which, however, personifies the qualities of God, and thus gave rise, on the one hand, to the doctrine of angels and archangels, and, on the other, to the conception of a plurality of the energies or activities of God, which were spoken of as *Spenta Mainyu*, the Holy Spirit (similar in conception to the Christian Holy Ghost), as the Good Thought (*Vohu Manha*), as the Divine Wisdom (*Khratu*), as the Kingdom or the Good Kingdom (for the coming of which prayers were said), as the Pure and Stirring Word that existed before anything else and through which the world was made.[2]

By the side of Mazdaism, we find Indian influences that made themselves felt among the Jews. The authors of Alexandrian Judaism (among whom Philo is the most renowned and the most learned) make frequent mention of the Gymnosophists, the Jains of India, and expound some of their strange doctrines. Buddhism itself, so similar in many respects to Christianity, is nowhere specially mentioned in the contemporaneous literature of this age, and yet we have indubitable though meagre vestiges of Buddhist

---

The word *sabbatu* is Accadian and means "day of rest." The Babylonians adopted it from the Accadians and transmitted it to the Assyrians.

[1] *βασιλεὺς Κῦρος προσέταξε τὸν οἶκον τοῦ Κυρίου τὸν ἐν Ἱερουσαλὴμ οἰκοδομῆσαι, ὅπου ἐκτεθύμωσι διὰ πυρὸς ἐνδελεχοῦς.* ΕΣΔΡΑΣ, A. S, 24. See also Chron. xxxvi. 22–23, repeated in Esra i. 1–2.

[2] For brief but instructive accounts of all these striking doctrines of Mazdaism, see Prof. A. V. Williams Jackson's articles, one in *The Monist*, Vol. IX., No. 2, p. 161, the other in *The Biblical World*, Vol. VIII., No. 2. We have urged our learned contributor to compile a book on the religion of the Persians and to set into strong relief the prophetic anticipations of Christianity to be found in the Zarathustrian faith. It is a book greatly needed. It would throw much light on the origin of Christianity and at the same time explain why dominion over all Asia was given to the Persians, to the nation that had the purest religion; and we should also see how they were enabled to rule the world until their fidelity to the pure morality of their religion began to relax.

[illegible] Testament itself, making it certain that its [illegible] known in Syria in the days of Christ. [illegible] parallelisms between the accounts of Bud- [illegible] Gospels, too similar in details and too [illegible] : the Buddhist Jataka tales migrated [illegible] Æsop's fables and in the story of Josaphat [illegible] Rock Inscriptions of Asoka speak of the [illegible] Western Kingdoms, among which Syria [illegible] mentioned. The use of the typically Bud- [illegible] (τρόχος γενέσεως) in St. James's Epistle [illegible] modern versions), which was no longer [illegible] significance, is in itself irrefutable evi- [illegible] Buddhist notions in Western countries.[1]

[illegible] books of the Old Testament contain no indica- [illegible] immortality, and philosophical conceptions as to [illegible] the end of the world were foreign to the He- [illegible] priests. The doctrine of the creation of the [illegible] into Hebrew literature in two versions, both [illegible] Babylonian sources. But the doctrine of [illegible] and a beginning of a new one appears only in [illegible] books and assumes the shape of apocalyptic [illegible] of the things to come.

[illegible] book of this character, the revelation of St. [illegible] in the Christian canon, but apocalyptic litera- [illegible] a factor in the building up of Christianity that [illegible] the subject by without a few comments.

[illegible] of all revelations of Judaism, Gnosticism, and [illegible] including the *Divina Comedia* of Dante, seems to be [illegible] Nâmak, a vision of Heaven and Hell as seen by the [illegible] prophet Arta Viraf. In Hebrew literature the eschat- [illegible] which first appears in Ezekiel and Daniel, made a [illegible] on the religious mind of the Jews, and soon a [illegible] of revelations appeared, among which the book of [illegible] is the most noteworthy product of the fermenting process

[1] See the author's *Buddhism and its Christian Critics*, pp. 165–194.

of the age. Other books of more or less importance are the Assumption of Moses, the Revelation of Moses, the Revelation of Baruch, the Sibyllines, the little Genesis (also called the book of the Jubilees), the prophecy of Esdras and others.[1]

The character of the Revelation of St. John the Divine remained an unsolved problem to the investigators of New Testament history, until its connexion with the apocalyptic books of the Old Testament was understood. St. John's apocalypse was received within the canon of the New Testament not without serious protests, and yet it is one of the most genuine Christian writings, representing a very important phase in the development of the Church, and mirroring the period of transition from Judaic Christianity to the establishment of the Gentile Church. Besides the apocryphal books of the Old Testament, which show traces of the older Gnosticism and constitute a transition to the literature of the New Testament, there is the formation of those Jewish sects enumerated above which profess a belief in the coming of the Good Kingdom which is thought to be near at hand with its new order of things.

There can be no doubt about the pre-Christian existence of the Nazarenes, for Christ himself is called a Nazarene; and the name of this sect remained for several centuries the name of the Jewish Christians. St. Paul, soon after his conversion to Christianity, is spoken of by the Jews, according to the report in the Acts, as a ringleader of the Nazarenes. It is difficult to decide whether the Essenes, Ebionites, and Zabbæans were only other names for Nazarenes, or whether they were different congregations of a kindred

---

[1] See Hilgenfeld, *Die jüdische Apokalypse*. As to the prophecy of Esdras we have to add that it is one of the most superior productions of apocalyptic writings. It contains several passages of vigor and poetic beauty, while the crudities which are an almost indispensable accompaniment of this class of literature are less offensive than in the Revelation of St. John the Divine. We no longer possess the original of Esdras, the date of which has not as yet been determined, but only versions in Latin, Ethiopic, Syriac, Arabic, and Armenian. Parts of the book show evidences of emendations of the first century of our era; a fact, however, which does not exclude the possibility of the bulk of the work's being pre-Christian. Certainly, neither Christians nor Jews of the first century could very well have spoken of Christ, of the Messiah or Anointed One, as does the author of the prophecy of Esdras. The vision of the eagle may be a later addition.

spirit. If different, they were certainly children of the same Gnostic movement, and all of them cling to the common ideal of trying to realise the kingdom of Heaven on earth. There was probably a vast difference of opinion as to the nature of the kingdom of God and the method of its realisation, but this much was the accepted belief of all, that a saviour, a leader like Joshua, would come and introduce the new order of things.

Our reports of the early Jewish Christianity are very meager. They are practically limited to passages in the Epistles of St. Paul, to the Acts of the apostles, and a few passages in the literature of the Church Fathers; but they are sufficient to prove that the oldest Christian congregation was a communistic society which held all things in common. We read in the Acts (ii. 42–47):

"And they continued steadfastly in the apostles' doctrine and fellowship, and in breaking of bread, and in prayers.

"And fear came upon every soul: and many wonders and signs were done by the apostles.

"And all that believed were together, and had all things common;

"And sold their possessions and goods, and parted them to all men, as every man had need.

"And they, continuing daily with one accord in the temple, and breaking bread from house to house, did eat their meat with gladness and singleness of heart.

"Praising God, and having favour with all the people. And the Lord added to the church daily such as should be saved."

And again (iv. 34–37):

"Neither was there any among them that lacked: for as many as were possessors of lands or houses sold them, and brought the prices of the things that were sold,

"And laid them down at the apostles' feet: and distribution was made unto every man according as he had need.

"And Joses, who by the apostles was surnamed Barnabas, (which is, being interpreted, The son of consolation,) a Levite, and of the country of Cyprus,

"Having land, sold it, and brought the money, and laid it at the apostles' feet."

In the enthusiasm of the Pentecost awakening many well-to-do citizens had joined the congregation and thus "there was in those days not any one among them that lacked." But the times changed,

for we know from the fact that collections were made among the Gentile Christians for the Saints at Jerusalem that the communistic experiment of early Christianity proved a failure and was not repeated by St. Paul. It is noteworthy that Peter in his Pentecost sermon says, not that Jesus was Christ, but that being raised from the dead and having ascended to Heaven, "God hath made that same Jesus whom ye have crucified both Lord and Christ." The main trend of Peter's Pentecost sermon is eschatological. He quotes as words of God sentences from Joel and Zachariah, giving them an apocalyptic interpretation, in referring them to the day of judgment, saying (Acts ii. 19–20):

"And I will shew wonders in heaven above, and signs in the earth beneath; blood, and fire, and vapour of smoke:

"The sun shall be turned into darkness, and the moon into blood, before that great and notable day of the Lord come."

Otherwise Peter preaches the doctrine of St. John, the Zabbæan, only adding thereto the name of Jesus and promising the gift of the Holy Ghost, saying:

"Repent ye and be baptised, every one of you, in the name of Jesus Christ, for the remission of sins, and ye shall receive the Holy Ghost."

The Gentile Christianity was founded by St. Paul, not as a continuation of the Nazarene doctrines, but in perfect independence of the early Church at Jerusalem.

Paul prides himself on the fact that he owes nothing to the other apostles, saying, "I neither received the gospel of man, nor was I taught it, but by the revelation of Jesus Christ." He interprets his downfall on the road to Damascus and the flash he saw when struck with blindness for several days, as a Christophany, and claims therefore to have seen Christ face to face. Apparently he cares very little about the historical facts of the life of Jesus, for he purposely avoids contact with the disciples of Jesus, saying (Gal. i. 17):

"Neither went I up to Jerusalem to them which were apostles before me; but I went into Arabia and returned again unto Damascus."

Paul's first meeting with Peter and James apparently did not

serve the purpose of instruction, but was merely a visit for the e tablishment of friendship and good-will. Paul says (Gal. i. 18–2

"Then after three years I went up to Jerusalem to see Peter, and abode w him fifteen days.

"But other of the apostles saw I none, save James the Lord's brother.

"Now the things which I write unto you, behold, before God, I lie not."

Paul is very explicit in relating all his connexions with t Jewish Christians. He continues:

"Afterwards I came into the regions of Syria and Cilicia;

"And was unknown by face unto the churches of Judæa which were in Chri

"But they had heard only, that he which persecuted us in times past n preacheth the faith which once he destroyed."

Then, after fourteen years of successful work among the Ge tiles, having acquired a strong fellowship among them, Paul we up to Jerusalem to be recognised by his fellow-apostles, or, as expressed it, "lest by any means I should run, or had run in vai

The alliance which was thus formed between the Gent Church and the Jewish Christians was possible only so long as th kept at a distance. The latter kept the law punctiliously, thir ing that not one jot nor tittle should pass from it, and lived up Christ's demand, "Sell all thou hast and give it to the poor"; t former adopted Paul's view of living in the world without being the world. St. Paul describes their covenant in these words (Ga ii. 9–12):

"When James, Cephas, and John, who seemed to be pillars, perceived th grace that was given unto me, they gave to me and Barnabas the right hands fellowship; that we should go unto the heathen, and they unto the circumcision.

"Only they would that we should remember the poor; the same which I al was forward to do."

Paul was perfectly conscious of the fact that his Gospel di fered from the Nazarene Christianity, for he states directly that h "communicated unto them [i. e., Peter and other pillars of th Church at Jerusalem] that Gospel which he preached among th Gentiles, but privately to them which were of reputation" (c. 2, 2)

St. Paul was perfectly satisfied that the Jewish Christians shoul remain Jews and retain all their particular traditions. Peter an

the other apostles, on the other hand, cared little for the Gentile world, except that they rejoiced at the glad news of the great success of one who preached in the name of their revered Master and Lord, Jesus. A compact of mutual recognition was thus easily effected, the more so as the congregation of Jerusalem was under no obligation whatever and received considerable alms from their unknown brethren of the Gentile churches. The report in the Acts of the apostles stands in many respects in flat contradiction to the version given by St. Paul, but we need not hesitate to regard St. Paul's statements as direct evidence of historical facts, while the Acts of the apostles is a later compilation. It contains genuine sources of unquestionable value (the so-called *we*-passages), but is also filled with doubtful legends, and the redactor did his work with a definite and obvious purpose, which is apologetic in its tendency and attempts to prove that the authority of the Gentile Church has been derived from Jesus through the twelve apostles, a fact which becomes more than doubtful when considered in the light of St. Paul's own words.

We need not enter here into the conflict to which St. Paul alludes, but we can understand St. Peter's attitude when he became aware of the practical differences between the two Christianities. The conflict was unavoidable wherever Gentile and Jewish Christians came in closer contact. It never became a serious question, because after the destruction of Jerusalem the Nazarenes lived in inaccessible villages of Syria, and the Jewish Christians of the dispora were like Paul partly under Gentile influence themselves and partly too weak to convert the rest of the world to their Judaism.

In all particulars the Nazarenes remained Jews and gave little heed to the Gentile world; but with the powerful development of the Gentile Church they came to be regarded as a sect of heretics. Epiphanius[1] tells us that after their flight from Jerusalem 70 A. D. they lived in Decapolis (Pella) and Basanitis (Cacabe), Coele-Syria. Being poor and living in obscure and almost inaccessible

[1] Pan. xxix. 7.

parts of Syria, they were little heeded and are rarely mentioned in patristic literature. For all we know there may have been, at least prior to the destruction of Jerusalem, Nazarenes who did not believe in Jesus as the Messiah, and it is certain that they were otherwise Jews. We read in the Acts that there were disciples of John left, but it seems that they were soon absorbed by the Jewish Christians; still some may have kept to themselves, and Origen[1] actually states that the Ebionites are divided into two sects, one of which denies the virgin birth of Jesus. Eusebius[2] also discriminates between those who do and others who do not acknowledge the supernatural origin of Christ; and lastly Jerome[3] says that "anxious to be both, Jews and Christians, they are neither the one nor the other." They had a gospel of their own, called "the Gospel of the Hebrews,"[4] which is sometimes quoted by Church Fathers in refutation of their heresies and was lost when the Nazarenes disappeared. The problem whether Jewish Christians or Gentiles were the true followers of Jesus was finally disposed of through the disappearance of the Nazarenes.

EDITOR.

---

[1] Contra Celsum, V., 61. [2] H. E., III., 27. [3] Ep. 79.

[4] The theory that the Gospel of the Hebrews is older than the canonical Gospels and one of their sources, is now abandoned for good reasons. It is presumably a late production written with the tendency of justifying the Jewish Christians, i. e., the successors of the Nazarenes, against Gentile Christianity.

LITERARY CORRESPONDENCE.

FRANCE.

EVEN a partial analysis of the erudite and beautiful work of M. Ad. Coste, *L'expérience des peuples et les prévisions qu'elle autorise*, would make too great demands upon the space at our disposal. This new volume is the sequel to the *Principes d'une sociologie objective*, of which I have already spoken at some length. M. Coste studies here the evolution of all the social phenomena that constitute in his view the material of sociology, as *government*, *production*, *beliefs*, and *solidarity*. He exhibits the concordance of these four great "functions,"—a concordance or correlation which, as is well known, he conceives to be subject to the influence of a single initial and propulsive fact,—viz., *population*.

From this last point of view, supposing men to have emerged from the state of savagery, the stages of social progress are marked by the following creations: (1) Castles and villages; (2) Towns placed over villages; (3) Provincial capitals placed over towns and villages; (4) State capitals placed over large cities, towns, and villages; (5) Federal capitals placed over state capitals; etc., etc.

The series of sociological laws which it seems to him possible to formulate has the following form:

1. The law of assimilation, conformably to which the human species tends to unification.

2. The law of correlation between the social state and the population.

These are the two primary laws which determine the evolu-

tion, which is then subject to the following four secondary laws, severally governing the social functions:

3. The law of the segregation of power.
4. The law of the division and organisation of labor.
5. The law of the progression of knowledge (Comte).
6. The law of the equalisation of social conditions.
7. A law which regulates the concordance of these four individual evolutions, without which one should not be justified in speaking at all of "sociological laws," or "necessary relations having their origin in the nature of things," as the phrase of Montesquieu goes.
8. A law which regulates the persistence or survival of modifications of formal functions.

M. Coste predicts the installation of a social *régime* which shall exhibit a more compact solidarity and shall be the product of a species of federation, not geographic but organic, and composed of corporations and syndicates, all of which are interested in maintaining the independence of a higher tribunal which shall assure them their liberties and their rights.

* * *

Less finished and less strongly imbued with the genuine signification of sociology is the work of M. A. BRASSEUR, *La question sociale, études sur les bases du collectivisme.* According to M. Brasseur, the upward march of individualism is a concomitant of all real social progress. Man is led by his own interests to bring his subjective or personal aims into conformity with the objective or general aims. Altruism, in which the socialists find a new spring of action, is but a metaphysical idol. Altruism tends to destroy the originality of the human molecule, whilst individualism is part and parcel of the principle of life itself and the incarnation of natural law. The ideal of mankind should be the exaltation of the ego by elevation, not by elimination.

After this, it seems contradictory for the author to relegate economic factors to a second place in order to give the first place to the psychological elements, as also for him to present the social question as a moral question. He has committed the fault of no

distinguishing between a chimerical conception of altruism and the principle of human sympathy, which is no less eternal and efficacious in its workings than the principle of *primum sibi*. The insufficiency of his psychology annuls his conclusions and affects the value of his criticisms. His analyses are inadequate, and his doctrine is not capable of precise limitation.

* * *

The essay of M. G. DUMAS, on joy and sorrow (*La tristesse et la joie*) is the most important study of an affective state that has yet been made. M. Dumas does not proceed by the customary way, which is to search for cases in point, to formulate their conditions, and thereupon to proceed immediately to generalisations. Instead of studying the same affective state in many different individuals, he has been led by preference to consider many different affective states and emotional variations in the same individual, and it will not be denied that he has been perfectly justified in proceeding in this manner.

I cannot take up in detail the numerous analyses and observations contained in this work. I shall simply note that M. Dumas, who is at variance here with M. Ribot, does not conceive joy and sorrow to be "general emotions," having no definite sphere of their own and diffusing themselves throughout all the manifestations of the affective life, but on the contrary as "special and particular emotions," having their special reactions.

As to the nature of these affective states, the question which here arises is the same as that raised by the much-debated theses of Lange and William James. M. Dumas discusses these theses more profoundly than has been done before; showing what they have in common and what they have individually. For William James, emotion is not only physiological in character, that is to say, dependent upon the condition of the organism of which it is the conscious expression, but it is also of peripheral origin. In other words, emotion is not a psychical phenomenon having a distinct seat in the brain, but a genuine phenomenon of sensibility having its source, like all sensations, in the periphery of the body

and perceived in the cortical centers like all other sensible excitations.

M. Dumas admits that sentiment is physiological in character, but without failing to recognise that it is difficult to explain why this or that vaso-motor condition is associated with this or that idea or perception. But he withholds his assent to the doctrine of peripheral origin. If that origin is in no wise subject to doubt for states of passive sorrow and serene joy (for which the clinical proofs abound in his work), the thesis does not possess the same likelihood in cases of agreeable or painful *excitation.* It appears, on the contrary, that "pleasure and pain in their acute form are not the effect but the cause of the majority of peripheral reactions that characterise suffering and exuberant joy." But it is possible, he remarks, that the excitation may provoke two species of reactions: the first being primitive and reflex, as well as the determining cause of pleasure and pain; the other being automatic and secondary and therefore the consequence of pleasure and pain. On this hypothesis, James would be right, throughout. Properly speaking, sensibility would never exist in the nervous centers. But this new hypothesis, which would have the advantage of bringing unity into the theory of emotion, is at direct variance with facts of considerable significance, and would seem sometimes to be contradicted even by common observation.

I must cease here with my rapid *résumé* of this work. What I have said will, I hope, be sufficient to show the importance and the interest of the work of M. Dumas.

* * *

M. Henri Bergson gives us in his *Le rire, essai sur la signification du comique,* an excellent and attractive work, in which he essays to group about a single general point of view the various theories which have hitherto been propounded in explanation of humor. Humor is born, according to him, whenever we discover in a man an "articulate Jack-in-the-box"; wherever we find automatism and rigidity where there ought to be flexibility,—wherever mechanism has supplanted life. To this principle he refers all the various species of humor; he points out the application of

this principle in the humor of forms and of movements, then in the humor of situations and of words, and finally in the humor of character. He has performed his task with moderation and acumen, employing a great wealth of illustrations and closely studying the different processes by which wags and buffoons, punsters and wits, novelists and playwrights, have in all ages produced humor and provoked laughter. His study is certainly the most comprehensive that I know of, and M. Bergson has succeeded in explaining by his principle a greater number of cases than any other author. But, if I am not mistaken, there is always room for the generally accepted theory which connects laughter with the nonconformity or incongruence of two ideas, with this difference, that the nature of this incongruence is here always specified, and that the same general type of nonconformity is found in all possible situations.

M. Bergson has also sought to determine the "social value" of laughter. Laughter, which is the enemy of all rigidity and of all automatism, whether of mind or body, constitutes in his eyes a punishment for the existence of these deficiencies, which actually diminish in some measure the social value of a man. Comedy would thus occupy a position between social life and art; it would be artistic in one phase and moral in the other. But this is a consideration the development of which I should prefer the reader to follow in the book itself. Many novel and curious remarks will also interest him there, remarks upon the distinction between tragedy and comedy, upon the characteristics of classical comedy, upon the analogy of the absurdity of the comical personage with the absurdity of dreams.

* * *

M. Louis Proal has written an admirable book in his *Le crime et le suicide passionnels*, a work based on the solid experience of a civil magistrate. It is of high interest to psychology for the analyses which it contains, and to literary criticism for the comparison which it makes of the heroes of the theater and the novel with the observations of the judiciary. I have no criticisms to prefer save with respect to points of pure doctrine, and accept without reserve

the general conclusions of M. Proal, either when he is condemning love outside the pale of marriage and is portraying the dangers of "sensual" love, or when he is castigating the crime of seduction in all its forms and is pleading for conjugal fidelity; when he denounces the evils which result from our literature, when he takes to task the increasing laxity of moral instruction in families, or when he emphasises the favorable influence which religious ideas exercise upon the moral life of woman, in particular; and finally when he appeals to the laws, which may be said to contribute greatly to the formation of habits and to prepare the way for good morals in a wisely regulated state.

* * *

M. L. BRUNSCHWICG publishes an *Introduction à la vie de l'esprit*, a work of high character, divided into five chapters which treat of conscious life, scientific life, esthetic life, moral life, and religious life.

* * *

M. G. BONET-MAURY gives us a *Histoire de la liberté de conscience en France depuis l'édit de Nantes jusqu'à juillet 1870.* This is a thoroughly meritorious and trustworthy work of history, written in a generous spirit and interesting to read. The author is of opinion that "there has always been in every epoch of the world's development a rigid correlation between political liberty and philosophical or religious liberty, so that one may lay it down as a principle that liberty of conscience has no worse enemy than political despotism, nor a better support than freedom of speech and of the press." This is doubtless true, yet it is incumbent upon us to assign to these words, "despotism," "liberty," etc., their just valuation at each moment of history, and to take into account the necessities of contemporaneous politics. Other writers might explain very simply and even very brutally why France has not become Protestant and why liberty of conscience has always been difficult to gain; one has even reasons for thinking that this conquest has not been easier since the triumph of Protestantism. From the point of view of sociology the question perhaps does not present itself in the terms in which M. Bonet-Maury has presented it to us; the

psychological error and the theological error to which he attributes religious intolerance as to its two principal causes, appear to me to be at most labels beneath which are hidden more positive and precise reasons. But these reservations which I merely indicate here, without developing them, detract nothing from the real historical interest of this excellent work.

* * *

With M. L'Abbé Clodius Piat and his book on *Socrates*, with M. Théodore Ruyssen and his book on *Kant*, with M. le Baron Carra de Vaux and his book on *Avicenna*, is inaugurated a new collection of works treating of the great metaphysical thinkers of humanity and bearing the title *Les grands philosophes*,—a collection which will be issued under the editorship of M. Piat, and of which the express purpose is to determine the contributions made to human knowledge by the different great masters of philosophy. The three volumes which are offered us to-day merit equal attention, but the novelty of the subject will doubtless lend greatest interest to the work on *Avicenna*. This book has been written with impartiality, and is replete with material. For my part, I always welcome books devoted to the brilliant civilisation of the Arabs, which Littré has called the "Lesser Renaissance," and without which a connecting link in the history of civilisation would be missing. M. de Vaux gives us useful information concerning the origins of this civilisation, or concerning the ante-Islamic period; and the attractiveness of these historical pages is not diminished by the analysis which the author gives of the doctrines professed by the Islamic philosophers. In this analysis of doctrines there are traces of concern apparent to restore Scholasticism to a place of honor; and in fact the new collection is self-confessedly a contribution to the Neo-Thomistic movement. Yet this new endeavor on the part of French Catholicism is not for us to decry, for we are of those who attach a high importance to the discussion of philosophic questions, when nobly and learnedly conducted.

* * *

Two important works in the history of literature deserve to be noticed. The first is by M. H. Ouvré, *Les formes littéraires de la*

pensée grecque, a work exhibiting great learning and attra
though sometimes subtle and slightly obscure, in which t
has attempted to discover and to interpret the concat
forms in which the literary thought of the Greeks has ex
self. The second is by M. G. RENARD and entitled *L
scientifique de l'histoire littéraire*, a meritorious production
M. Renard expounds the principles which to his mind sho
historians of literature, and applies these principles to t
of French literature as a totality. M. Renard is distinctl
to the employment of the deductive method which was
used by Taine and which is equivalent, as I have often
to the assumption of some single arbitrary fact of which
vary as a function and which is therefore considered as th
termining cause of all the phenomena involved. To p
ductively, that is to say, in the present case, to establis
groups in the development of literary life, to assign th
for these groups, to show their points of connexion with
ing conditions, and to determine if possible the laws of t
tion of one form into another: such is the general plan of
I restrict myself to the foregoing indication only of the c
this work, and seize the present opportunity of recomm
my readers, and perhaps it might be well also to do the
M. Renard, the broad plan of study which has been dra
the *Compendium* recently published by Gayley and Scott a
by Ginn & Co., of Boston.

Finally, I may simply mention in this connexion th
M. OSSIP-LOURIÉ, entitled *La philosophie sociale dans
d'Ibsen.*

* * *

The third volume of the *Année sociologique* (the v
1898–1899) is of no less interest than its predecessors. I
three original memoirs (I forego the mention of the n
reviews of books). The memoir of M. F. RATZEL, *Le sol
et l'état* gives us a valuable *résumé* of the socio-geographi
of which M. Ratzel is the most accredited representat
memoir of M. G. RICHARD, which bears the title *Les crises*

Les conditions de la criminalité, gives a good criticism of two antagonistic theories, one of which attributes crime to the pathological condition of the individual and the other to the condition of society. According to M. Richard, criminality is probably the consequence of a moral retrogression which makes parasites of certain individuals; but the cause of this retrogression should not be sought outside of the social *milieu*. It not being permissible to consider criminality as the survival of a prior atavistic morality, it is necessary to attribute it to some crisis of society,—which always intervenes whenever the social discipline is forced to undergo a transformation.

M. STEINMETZ is the author of an attempt entitled *Classification des types sociaux et catalogue de peuples*, a preparatory work which he correctly believes to be indispensable to the fruitful prosecution of sociological research. He criticises the classifications which have hitherto been propounded and proposes a new one of his own, in which there are *four branches* springing from the progressive character of the intellectual life, and *ten classes* based upon the general character of economic life. The catalogue of peoples, such as he conceives it, would be drawn up in terms of a special notation.

* * *

The *Année philosophique* for 1899 shows a new name on its title-page, that of M. HAMELIN, who makes his *début* in this number with an essay on *Induction;* M. RENOUVIER treats of *Personality;* M. DAURIAC treats of the *Method and Philosophy of Shadworth Hodgson;* while M. PILLON furnishes a study of the evolution of idealism in the eighteenth century.

M. DESPAUX in his *Genèse de la matière et de l'énergie* attacks the problem of the origin and destiny of worlds. Matter alone, in a state of extreme diffusion, or rather the impenetrable ether, is, according to M. Despaux, sufficient to explain both matter commonly so called (that is, matter endowed with weight) and energy in all its forms. This view does not differ greatly, at least as to its primary and most general datum, from the doctrine of Mme. Clémence Royer, of which we spoke in the last *Monist*.

A word in conclusion upon a little essay by M. L. FAVRE, *La*

Musique des couleurs,[1] the first volume of a series bearing the title *Bibliothèque des méthodes dans les beaux-arts*. Basing his opinion upon the analogy of sounds and colors, M. Favre affirms the possibility of a species of painting which should resemble music. Painting, which is an immobile art is, according to him, susceptible of being made a mobile art. This extension of its domain would require first the establishment of a gamut of colors founded upon principles corresponding to those of the gamut of sounds. It would then require the invention of certain ingenious schemes of disposing these graduated colors so as to realise the new ideal. It may be objected that the analogy between the scale of colors and that of sounds is far from being perfect, and certain consequences which I have not the time to point out here follow from the very fact that two principles, which might be termed *lighting* and *coloring*, intervene in the establishment of gamuts and series of gamuts. On the other hand, it is not easily seen how the rational employment of a notation of colors could ever give anything else than a simple "play of colors," and how one could pass from the play of illuminated fountains for example to a production of genuine art. In fine, I have my doubts relative to the advantages of any collaboration or synthesis of the arts having in view the increase of their powers of expression. But these criticisms, which I have set forth at greater length in the *Revue philosophique*, do not prevent me from appreciating the merits of the work of M. Favre, who is a talented as well as an ingenious writer.

LUCIEN ARRÉAT.

PARIS.

---

[1] Paris, Schleicher, publisher. All the other works mentioned are published by F. Alcan.

COMMUNICATIONS.

THE PROJECTED INTERNATIONAL MUSEUMS OF SCIENCE, EDUCATION, AND THE ARTS, IN PARIS.

The buildings of the foreign nations at the Paris Exposition of 1900, which were erected along the left bank of the Seine and went by the name of "The Street of the Nations," formed a magnificent row of structures, and the laudable idea was suggested to a number of public-spirited Parisians to preserve the more substantial and beautiful of these buildings as places of shelter for international museums of science, education, and the arts, the design being to give permanent synthetic form to the intellectual and moral achievements of the departing century. The character and standing of the patrons of this project are of themselves a guarantee of its success. Four of them are ministers, namely, MM. Millerand, Delcassé, Leygues, and Baudin; and in addition the names of M. Alfred Picard and M. Delaunay-Belleville are also associated with the enterprise. The committee which has been appointed to carry out the details of the project is a representative one and in every way indicative of the liberal and lofty spirit of the undertaking; among them being Prof. Patrick Geddes, MM. Léon Bourgeois, Liard, E. Lavisse, François Coppée, Duclaux, Prince Roland Bonaparte, Louis Herbette, Charles Normand, Émile Bourgeois, Georges Cain, Schrader, John Labusquière, General Sébert, Dr. Martin, G. Moch, and M. Youriévitch.

The question of the possibility of saving the beautiful buildings of the Street of the Nations was submitted to an expert architect, M. Louis Bonnier, who found upon examining the structures that the pavilions of the first of the two rows which stretched along the Quai d'Orsay, with the exception of four, could be easily repaired and made to last ten years at least. The Italian, Turkish, Spanish, and Servian buildings will have to be removed. The new Street of the Nations will comprise, therefore, twelve structures; to wit, the buildings of Greece, Sweden, Monaco, Finland, Germany, Norway, Belgium, Great Britain, Hungary, Bosnia, Austria, and the United States. These form, or will be made to form, a single row; all the other structures of the original Street of Nations having with one exception been either removed or destroyed. The committee has already entered

into communication with the commissioners-general of the twelve countries inte ested, and in nearly every case the negotiations have been carried to the stage virtual completion. Sweden and Norway have surrendered their buildings for nominal indemnity. The Fins have given up their structure unconditionally, an the Germans have made an outright gift of their pavilion to the committee. Som of the other buildings have already been sold to contractors, but these will be re covered at slight cost. The sanction of the city of Paris to the project has yet to b obtained, and about $200,000 will be required for restoring and strengthening th buildings. But the consent of the city and the money will be soon forthcoming.

The museums to be installed in the various buildings have been determined i a measure by the peculiarities of national development. The United States, fc example, has been accorded the high honor of having the museum of comparativ education. The program says:

"The United States appears at the present moment as a striking embodimer "of the idea of progress, first of material progress (for no people has made suc "rapid strides in all the pathways of industry and commerce), and secondly of it "tellectual and moral progress. The beautiful in art, the true in science and edu "cation, the good in all orders of social improvement, have been realised by th "youthful people with a boldness of enterprise and an energy of execution tha "command the admiration of the Old World. . . . We offer to the United State "therefore, the honor of sheltering the museum of comparative education."

In the handsome building of Austria will be installed a Panoramic Survey c all the World's Fairs that have been held between the years 1798 and 1900. Th museum will contain iconographic representations of all the International Expos tions of the past, and afford thus an historical tableau of the progress of art, sc ence, and industry during the entire century. And not only the actual exposition of the past, like that of the Crystal Palace in 1851 and that of Chicago in 1893, bu also all the unrealised projects for World's Fairs, will here find representation.

The museum of peace will be lodged in the picturesque pavilion of Bosnia the royal building of Hungary will shelter the museum of the history of civilisa tion; that of Great Britain the museum of hygiene and bacteriology; the museu of public art will be placed in the Belgian building; the pavilion of Norway wi shelter the fisheries, navigation, and Arctic exploration exhibits; the German build ing will be consecrated to scientific societies and social economics; the odd an picturesque building of the Finns will contain the museum of geography; that c Monaco will be reserved for the oceanographical and biological museums; whi the pavilion of Sweden will be appropriately devoted to the museum of manu training, and the pavilion of the Greeks to that of classical archæology.

The talents and services of some of the most distinguished experts in the abov mentioned departments of human industry and thought have been placed at th disposal of the committee. Dr. A. J. Martin, director of the department of hy giene, has signified his willingness to install in the British pavillion the collectior

of Pasteur and Lister; Prince Roland Bonaparte and M. Schrader have promised to organise the museum of geography, M. E. Lavisse that of history, and MM. Georges Cain, John Labusquière, Charles Normand, and Charles Simond, that of public art. According to the statements of a recent number of *Figaro*, every day is bringing forth some new project, evidences of new sympathy, and new assistance. It is sincerely to be hoped that the aspirations which have here taken so tangible and noble a form will be speedily realised, and that the beautiful Street of the Nations will remain as a permanent and inspiring monument to international artistic and intellectual effort.

BOOK REVIEWS.

FACT AND FABLE IN PSYCHOLOGY. By *Joseph Jastrow*, Professor in the University of Wisconsin. Boston: Houghton, Mifflin & Co. 1900. Pp. 375. Price, $2.00.

Professor Jastrow has done a real service to his chosen science and to the cause of sound thinking generally by reprinting in book form this series of articles written on various occasions but informed by the common aim of aiding the intelligent layman to distinguish the method and discipline of the serious study of mental phenomena from the superstitions and charlatanisms that are fast bringing the very name of psychology into disrepute.

The book is in the first place a convenient and readable history in outline of those curious movements of opinion indicated by the terms occultism, spiritualism, telepathy, psychical research, mesmerism, hypnotism, and the like. But it is much more than this. While entertaining us with the performances of Slade the medium and the peregrinations of the earthly and astral bodies of Madame Blavatsky, or summarising for us the results of investigations conducted by the Society for Psychical Research, Professor Jastrow deftly supplies the antidote in the form of a convincing psychological analysis of the mental habit that fosters and is fostered by such delusions, and further confirms our sanity by frequent administrations of fortifying logical tonic. He will of course not produce the slightest effect on the great mass of those who wish to be gulled, or upon minds too soft to retain the impress of an argument.

But there is a very considerable number of educated men who are genuinely bewildered by the difficulty of distinguishing between the legitimate wonders of modern physical science and the startling things reported by those who profess to be cultivating the extreme borderlands of the science of mind. At first blush wireless telegraphy or the telephone are as surprising as telepathy. The man in the street does not understand the mechanism of the one, and he has no time to study the ponderous tomes in which is collected the alleged evidence for the other. Where there is so much smoke, there must be some fire, he thinks. He is in the habit of accepting the opinions of experts and of respecting the opinions of those who back their beliefs with money. If Christian Science can build magnifi-

marble temples, Christian Science must be a reality. If Professor James of Harvard believes in Mrs. Piper, and learned societies print and gravely discuss the drivellings of "Dr. Phinuit," it would seem that there *are* more things in heaven and earth than are dreamt of in our philosophy.

To this attitude of mind Professor Jastrow's book may bring real illumination.

After a general introduction on the various forms of the modern Occult, he subjects the "problems" of Psychical Research to a close scrutiny and shows that, so far as they are questions legitimately to be asked, they fall within the field of scientific psychology: "The differentiation of a group of problems on the basis of unusualness of occurrence, of mysteriousness of origin, of doubtful authenticity, or of apparent paradoxical or transcendent character, is as illogical as it is unnecessary." The chapter on "The Logic of Mental Telepathy" brings out the subjective character of our recognition of coincidence, its dependence on the accidental direction of interest, and illustrates with many apt anecdotes the *a priori* probability of the multiplication of coincidence in an age of incessant mental activity and wide-spread dissemination of identical ideas and information. It would be easy to collect an enormous mass of evidence in support of the thesis that quarrels and divorces are caused by opposition in the horoscope, and are most frequent between those whose birthdays fall six months apart. But the scientific man would be under no obligation to examine such evidences, because the hypothesis is illegitimate and contradicts the fundamental conceptions underlying the totality of our knowledge. The same may be said of the hypothesis of telepathy as an explanation of coincidence.

"The Psychology of Deception" explains a large number of the typical performances of conjurers and mediums as they appear to the spectator and as they are worked behind the scenes. The evidence is overwhelming that the skilful conjurer can beat the medium on his own ground. Why in spite of this the medium retains his following is explained in the Psychology of Spiritualism, an exhaustive analysis of the mental conditions of credulity and self-deception. One of the chief of them is the over-confidence of the average man in his own untrained perceptions, his failure to recognise that he is about as competent to form an opinion as to whether what he sees at a *séance* is explicable as conjuring or not, as he is to pronounce on the genuineness of a Syrian manuscript.

There is one aspect of the matter on which I could wish that Professor Jastrow had been even more outspoken, although it is easy to read between his lines, and it must be admitted that his book gains greatly in practical persuasiveness from its judicial and moderate tone. I refer to what Huxley calls "the downright lying of people whose word it is impossible to doubt." This type of explanation is out of favor to-day, and it is undoubtedly a tactical error to have recourse to it in controversy. Nevertheless, no analysis of the "phenomena" of occultism is adequate that ignores the plain fact that such sense of truth as we possess has been developed in

connexion with the practical business of life and is rudimentary in relation to the marvellous and the supernatural. Professor Jastrow says: "Be it distinctly understood that we do not for an instant impute wilful perversion of the truth." And Mr. Furness speaks of the "honest men and women" at his side who solemnly affirmed that they saw what they did not and could not see. The experienced medium, if he frankly spoke his mind, would probably reply with the worthy Dr. Caius: "Honest? Vat shall de honest man do in my closet? Dere is no honest man shall come in my closet!" This of course does not mean that all educated witnesses to impossible phenomena are dishonest. But it does mean that the presumptions are rather against them than in their favor.

Professor Jastrow's book has sent me back to the two immortal treatises of Lucian, the *Philopseudes* and the *False Prophet*. "Why," asks Lucian at the outset of the former, "why is it that the great mass of mankind are so mightily given to lying when they have nothing to gain from it except the mere delight in the incredible and the untrue?" That is what I call a bold entry into the heart of the subject. The collection of ghost stories and the account of the career of Alexander of Abonitichos that follow present parallels to the greater part of the phenomena of modern occultism. Madame Blavatsky's shrine at Adyar from which were mysteriteriously issued answers to letters placed within its recesses, is the counterpart of the oracle of the sacred serpent operated by Lucian's hero among the innocent Paphlagonians. The brazen tablets of the Book of Mormon dug up at the opportune moment are an infringement of one of his patents. He had little to learn from our modern adepts in the arts of opening sealed letters, producing materialisations and optical illusions, or surreptitiously collecting the family and personal gossip, the fragmentary revelation of which in obscure and ambiguous phrase amazes and overawes the easy dupe. Haunted houses, mystic rapping, levitations, bewitched broomsticks, telepathic premonitions are described in beautifully defined examples. The fallacy of analogy to which Professor Jastrow has devoted a chapter which is an interesting supplement to the well-known section of Mill's Logic, is illustrated by the employment of the hide of a deer to cure rheumatic or gouty affections of the feet,—for is not the deer swift? And Lucian's conclusion of the whole matter would, I doubt not, be accepted in substance by Professor Jastrow. "To defend one's mind against these follies a man must have an adamantine faith, so that, even if he is not able to detect the precise trick by which the illusion is produced, he at any rate retains his conviction that the whole thing is a lie and an impossibility."

If challenged to produce the logical canons which justify this negative dogmatism and distinguish the wonders of science which we accept on testimony from those of occultism, the testimony to which we reject *a priori*, I should say:

1. The one are verifiable at will under strictly definable conditions. The other are not.

2. The one conform to the principle of objective material continuity as ex-

pressed in the laws of the indestructibility of matter and the persistence of force. The other do not.

3. The evidence for the alleged phenomena of occultism violates the principle of continuity and rational order in the development of human knowledge. Our knowledge of the X rays, for example, has been attained by a continuous progress every step of which lies before us in the history of science. We have every reason to believe that this is the law of all genuine discovery by the human mind. There is an overwhelming presumption against "discoveries" which both by their methods and their authors are cut off from this rational relation to the inherited totality of human knowledge. No one of the canons implied in these statements is perhaps a metaphysical or mathematical certainty. But they are all supported by a weight of presumption that has been accumulating in geometrical ratio for centuries. There is very little if any presumption in favor of either the competence or the entire good faith of human testimony to isolated and unusual occurrences. Such testimony therefore cannot create even a *prima facie* case for investigation until the alleged facts can be reproduced at will under conditions that absolutely exclude the more probable hypotheses of fraud or self-delusion.

Space fails me to speak of the long and valuable chapter on Hypnotism and its antecedents. The line between fact and fable is especially difficult of discernment for the layman here. Professor Jastrow hints, what I have always believed, that there is a considerable admixture of fable in the practice as well as in the theory of the school of Charcot. I hope that he will find occasion to speak his mind more fully. The study of involuntary movements makes visible to the eye as charted by an ingenious mechanism the unconscious movements of the hand and arm in the line of the direction of attention, thus proving conclusively that one notorious form of mind-reading may very well be muscle-reading. Two or three other chapters lie a little apart from the main theme of the book. Especially interesting is the account of Helen Keller's dream life in "Dreams of the Blind." In using the form *propagandum* has not Professor Jastrow himself fallen a victim to the fallacy of analogy of which he writes so instructively? PAUL SHOREY.

AÇVAGHOSHA'S DISCOURSE ON THE AWAKENING OF FAITH IN THE MAHÂYÂNA. Translated for the first time from the Chinese version by *Teitaro Suzuki*. Chicago: The Open Court Pub. Co.; London: Kegan Paul, Trench, Trübner & Co., Ltd. 1900. Pages, xiv, 160. Price, cloth, $1 25 net.

Açvaghosha, as the author of the *Buddhacarita*, the famous poem on the life of Buddha, is well known to Western Buddhist scholars; but as the great Buddhist philosopher, who practically formulated the doctrines of the Mahâyâna school, he is almost unknown even to the best informed students of Buddhism. And the reason is plain. For, while the general study of Buddhism has made great advances owing to our increased knowledge of Pâli and Sanskrit, the history of its doctrinal development has never been thoroughly investigated. This latter task requires

great accumulations of material and a perfect command of the various Orie languages in which these doctrines are recorded. Work covering so enormo field demands unremitting and intense labor on the part of many talented schol for a life-time. But we have not yet reached this stage in our Oriental researcl

To the Far-Eastern students of Buddhism, however, the name of Açvagho is perfectly familiar, and his position and significance in the history of Buddl philosophy are duly appreciated. The theory most prevalent and almost uni sally accepted as an established fact among Western Buddhist scholars concern the founder of Mahâyânism, is that Nâgârjuna was the author of the Prajñâ-pâ mitâ doctrine, on which they think the foundation of Mahâyânism was laid. a consequence of this fallacious hypothesis two grave errors naturally follow first, the disregarding of the doctrinal development that took place previous Nâgârjuna and thus paved the way for him; secondly, the identification of Ma yânism with the doctrine of the Prajñâ-pâramitâ, which forms only a special brai of the former.

Among the many Buddhist thinkers prior to Nâgârjuna—and there doubtl were many—Açvaghosha stands forth most conspicuous. It was he really t gave a fixed direction to the general Mahâyâna movement emerging from the sj itual chaos which commonly follows after the disappearance of a great leade thoughts. The religio-philosophical work of Açvaghosha now lying before us in English form as *The Awakening of Faith in the Mahâyâna* remains a monum tal work in the intellectual development of Mahâyânistic Buddhism. Yet ap from this, the book has a quite independent interest. For, according to the pr ent translator, it is an attempt at unifying all the philosophical doctrines exist in India in Açvaghosha's time, such as the Sâmkhya, the Upanishad, the Vai shika, and others, and so it will prove very important to students of Indian phil ophy generally.

Açvaghosha most probably lived in the latter part of the first century bef Christ, and seems to have been spiritual adviser to Kanishka, the great Gon phorean King of North India, and also to have been in some connexion with Third Convocation in Kashmir. The present book was written by him presuma in the later years of his life and presents his maturest thoughts.

After Açvaghosha, Mahâyânism made steady progress along the lines sketcl by him. The theory of the Prajñâ-pâramitâ or the Mâdhyamika school of Nâg juna is a development from Açvaghosha's conception of the absolute Suchn (*Tathatathatâ*); the idealistic, epistemological philosophy of Asanga and Va bandhu, known as the Vidyavâda or Yogacâra school, which was hotly engaged war with the Mâdhyamika, is also a consequence of Açvaghosha's conception the relative Suchness, i. e., *Alaya-vijñâna*. We need not enter here into its furtl fruitful evolution in Chinese Buddhist speculations.

According to the translator of the present book Açvaghosha's philosophi merit seems to consist chiefly in his introduction of the three following doctri:

into Buddhism: (1) The conception of Suchness that laid the foundation of the Dharmakâya theory in the Mahâyânism; (2) The theory of the triple personality, which, though closely resembling the Christian notion of trinity, savors more of idealism; (3) The doctrine of salvation by faith, which also appears in the *Bhagavad-gîta*, and which constitutes at present the corner-stone of the Sukhâvatî sect in Japan and China.

The present English translation of Açvaghosha is from the two Chinese versions made in the sixth and the eighth centuries of the Christian era. Unfortunately, these are now our only sources, the original Sanskrit having long been lost to the world. In India there is scarcely any hope of discovering it, as the translator surmises, but in some ruined monasteries of Nepal it may be found some time in the future, though so far nothing encouraging us to this belief is known.

The translator has made a careful comparison of the two Chinese texts. The book is furnished with an elaborate introduction treating of the life of Açvaghosha, the history of the Chinese versions, an outline of the author's philosophy, and also with numerous comments and a glossary explaining many difficulties for English readers. The translator confidently believes he has thrown much light on certain points in the development of Mahâyânism that have hitherto been left in utter obscurity. σ.

Social Justice. A Critical Essay. By *Westel Woodbury Willoughby, Ph. D.* Associate Professor of Political Science in the Johns Hopkins University, Author of *The Nature of the State, Rights and Duties of American Citizenship*, etc. New York: The Macmillan Company. London: Macmillan & Co., Ltd. 1900. Pages, xii, 385. Price, $3.00.

The aim which the author of this work has in view is the ascertaining of the general principles of right which form the basis of the ethics of particular social systems. The task he has undertaken is "the determination of the absolute value of social institutions," and the statement in definite form of the principles "which should govern men in their efforts to adjust their lives to the highest ideals of right and justice." Professor Willoughby does not claim to have developed a new system of ethics. He has adopted in the main the position of T. H. Green and the later writers of his school, but he has endeavored to make a more comprehensive application of transcendental principles to the concrete problems of life than has hitherto been done. His special purpose would seem to be, judging from a remark made in the Preface to his work, to supply the material for enabling judgment to be passed upon "the justice of the demands so powerfully put forth in our day by those large bodies of thinking men and women who, grouped under banners anarchistic, socialistic, or communistic, are demanding a radical readjustment of social and industrial conditions."

The value of the inquiry into the general principles of right on which the whole discussion turns is the special topic of the opening chapter of the present work.

The author has, however, some introductory statements which are deserving of n
tice. Thus, he points out that no condemnation of the existing social *régime* shou
be listened to until the proposed substitutive scheme has been shown to be et
ically sound. The social reformer has to consider carefully, therefore, which
the "popularly alleged canons of distributive justice have in them the elements
truth and rationality." The analysis of the idea of justice as an abstract conce
tion is then what Professor Willoughby first undertakes, preparatory to the appl
cation of the conclusions arrived at to the concrete problems of social life. H
commences by tracing the modern idea of justice to Kant's great work, which mak
the individual human reason the legislative source of moral law, because it is go
erned by the principle that "only that can be right which accords with a princip
which we can wish to be a universal one." Hence arises the idea of natural righ
which is synonymous with what the individual, as a rational moral being, ma
claim from others as rational moral beings. But the only rights that may be claime
as natural, in the sense of being innate or essential, are "those which are nece
sary for the realisation of one's highest ethical self." There are certain limitation
however, based on obligation to right action, and on disposition and ability to u
properly any privilege obtained, which show that there are no absolute rights suc
as ethical philosophers have insisted on. If any right were absolute it should
granted to every person as such, whatever their capacity for ethical developmen
and the evil that would follow such a course justifies the assertion that all righ
are purely relative.

But if no laws of justice can be formulated which may be universally appli
without leading to evil, what are the positive results obtainable? The answer giv
by the author to this question may be stated in his own words. He says: "In t
first place in demonstrating the impossibility of framing absolute rules of justi
the necessity will be emphasised of bringing each of our acts to the bar of reas
and of determining in each case, not simply its formal accordance or non-acco
ance with some previously accepted rule of conduct, but whether as a matter
fact, both the ethical motive which prompts its performance is a proper one, and
ultimate as well as proximate results will be such as will tend to advance the re
sation of the highest good which our reason has been able to suggest." But, s
ondly, the impossibility of formulating absolute rules of practical morality will
prevent us from stating, after examination of the circumstances of the case,
rules of conduct which it seems to us will upon the whole produce the most justi
The author finally points out the importance of demonstrating that absolute r
of justice cannot be definitely formulated, "for by so doing we deprive danger
revolutionary and socialistic schemes of the ethical support that is claimed
them."

The remainder of Professor Willoughby's work is devoted to the considerat
of the several aspects under which the problem of social justice presents its
treating first of the principle of Equality, then dealing with the theories of Pr

erty right, and afterwards with the various canons of distributive justice including the Labor Theory. In conclusion he treats of the harmonising of freedom and coercion under the heads of "The Right of Coercion," "The Ethics of the Competitive Process," and "Primitive Justice." We cannot do more than state shortly some of the results arrived at. And first as to Equality, which the author divides into Spiritual, Natural, Civil, Political, Social, and Economic. In each of these senses Equality is repudiated as an abstract principle of justice, the true principle of desert being found in the idea of Proportionality, that is "the proportioning of rewards in each particular case according to some ascertainable conditions of time, place, or person." In relation to Property, the author points out that, although it is of general advantage that property rights should be recognised and protected, yet the law should ensure a more just distribution of wealth than at present exists. How this can be effected has to be determined, and after a careful examination of the Labor Theory the author declares that the solution of each of the economic problems it presents involves almost, if not quite, insuperable difficulties. The conclusion he arrives at from a consideration of other canons of distributive justice he states in the words of Wundt: "Only that kind of property is morally justified which is used for moral purposes. Whatever idle or wasteful use of property exists by throwing it away for selfish purposes, without any consideration for the welfare of society, is immoral." If it is asked in any particular case what justice requires, it can only be answered that no system of ethics can give such explicit guidance. All that can be said is that "in each instance where an act is required, one must examine it as to all its possible results, proximate and ultimate, objective and subjective, and then ask himself whether the given line of conduct is more calculated than any other possible line of conduct to advance the world toward the realisation of the highest ethical perfection."

We cannot refer further to the second Part of Professor Willoughby's work, which deserves careful attention by those who are specially interested in the social and economic problems now agitating the public mind. Its views are clearly stated and the problem with which it deals is discussed with fairness by the light of what has been written by the chief authorities on the subject. C. S. W.

ESQUISSE D'UN ENSEIGNEMENT BASÉ SUR LA PSYCHOLOGIE DE L'ENFANT. By *Paul Lacombe*, Inspecteur générale des Bibliothèques et des Archives. Paris: Armand Colin & Co. 1899. Pages, xiii, 212. Price, 3 francs.

This is another of the numerous text-books treating of education from the psychological side. M. Lacombe shares the opinion of nearly the whole world that our present system of education is destined to be replaced by a radically different one, the dominant principles of which are to be furnished by the psychology of the child. Instruction will be at once primary and secondary, and above all will be real and objective. It will prepare the child not for a special career, but for the career of a human being, and will be concerned with inculcating a knowl-

edge of the child's present environment, and with developing his mental and moral faculties. M. Lacombe has gone to the very root of the problem in saying that the object of adolescent education should be the making of *autodidacts* of children during the school period as well as subsequently to it; and that the educational procedure should be so conducted as to conform absolutely to this end. Of these methods he has given a sketch. They are based, he tells us, upon wide personal experience as well as upon the established principles of psychological development. He discusses the motives which are to be put into play in eliciting the activity of the proper faculties of the child for a given purpose, and lays it down as a principle that the order of the motives evoked determines the order and character of the knowledge to be inculcated. That order would give rise to the use of the following forms of natural expression: drawing and modelling, music, numbers, and written words. M. Lacombe has given in detail his methods for awakening interest. Where interest cannot be awakened, he would not teach, but would defer instruction until the requisite attitude was forthcoming. Upon this point he does not differ much from other advanced educators. As to languages, he is in favor of the modern languages in preference to the ancient. While his book as a whole offers nothing extremely novel, especially for readers of English, who now have at their command a very extensive literature on this subject, it nevertheless contains many individual observations which are new as to their form and therefore not without value.

EDUCATIONAL AIMS AND EDUCATIONAL VALUES. By *Paul H. Hanus*, Assistant Professor of the History and Art of Teaching, Harvard University. New York: The Macmillan Co.; London: Macmillan & Co., Ltd. 1900. Pages, vi, 211. Price, $1.00.

The purpose which the author had in view in the preparation of this work, or rather of the lectures of which its chapters are reproductions, is stated in the preface to be a progressive attempt "to disentangle from the contemporary confusion, in both theory and practice, *our educational aims*, and to examine these aims in the light of present and future needs," that is the demands of modern life. The last three chapters treat of the professional training of the college-bred teacher and of the services to education of John Amos Comenius, the eminent Moravian bishop and teacher of the seventeenth century. The chapter which deals with the reforms introduced by Comenius is in some respects the most interesting portion of the work; as it shows that the curriculum and methods of education he inaugurated are substantially the same as the curriculum and methods now in use in the elementary schools both of Germany and of this country. He insisted on the establishment of schools open to all, both rich and poor, and the equal education of both sexes, saying: "Why should the female sex be excluded from the study of wisdom. . . . For they are created equally in the image of God, equally partakers of Grace and of the future kingdom, equally endowed with an active, recipient

spirit, often even more highly endowed than our own sex." The principles and methods set forth by Comenius in his *Didactica Magna* are as advanced as are his views in relation to the education of women. He introduced the study of history, geography, natural science, the elements of economics and politics, trades and mechanic arts, besides moral instruction, and he insisted on the principle, the importance of which is now fully recognised, that the necessary basis of all knowledge is experience, and therefore the senses must be used for the acquisition of knowledge wherever possible. As an aid to this, Comenius employed an illustrated school-book, the *Orbis Pictus*, which was translated and employed in many different countries, being the first step in the development of the illustrated text-books which form so valuable an adjunct in modern education. One of the most important features of this system was the co-ordination of all the subjects of study so as to form a single whole, and so that the higher courses of education should merely extend and deepen the instruction begun in the lower, regard being had to the capacities and tastes of each individual. Well may Professor Hanus ask whether modern educational reformers have anything more in mind than what was proposed by Comenius, with whom the object of the school is "to train the pupil in science and arts, to refine and perfect his speech, to assist him in discovering and developing his powers of body and mind, and to shape and dignify his character."

The key to the author's own particular views on the subject is to be found in his chapter on "Educational Aids and Educational Values." These are based on interest as incentives to mental activity in order to develop power, and the course of study should be such as will best promote the most important aims of education which are "to subject the pupil to the influence of social and ethical incentives, to render him responsive to the varied interests of life, and as he grows older, to discover what his permanent interests and capacities really are." The possession of social or ethical content is said to furnish the test of educational value, and hence Professor Hanus places in the front rank as subjects of study languages and literature, history and social studies, and finally art, all of which are needed for ethical and social enlightenment, and, even without interest, develop "the virtues of work through urgent extraneous motives." Mathematics, natural science, and manual training are declared to have only feeble educational value of any sort when without interest, although with interest they are useful for the development of habits of efficiency, which render their possessors useful and happy. But as the pursuit of those subjects does not involve necessarily the highest ideals, without which the usefulness and happiness of an individual are not of the highest order, they are inferior to the other group of subjects. This conclusion must be rather startling to those who have been taught to believe that mathematics is the chief handmaid of knowledge, and equally so to those who have come to regard manual training as its most valuable accessory. We must join issue with the author on that point, for although mathematics and manual training do not directly portray "the highest ideals of achievement, 'beauty, honor, duty, and love,'" they largely conduce to

the formation of that disposition of the mind which is required for those ideals to find their highest expression, and such may be said also in relation to natural science. It should be stated, however, that Professor Hanus actually gives to manual training an important place in his educational scheme.

No fault can be found with the author's statements as to the aims of elementary or primary education and that of secondary education. The former should induce, through good instruction and wise discipline, the exercise of all the child's powers, mental, moral, æsthetic, manual or constructive, and should promote his normal physical development. The aim of secondary education is to carry forward the work already begun, with due regard to *society* as well as to the individual, and therefore it "should especially promote the development of each pupil's dominant interests and powers"; and further, "it should seek to render these interests and powers subservient to life's serious purposes, and also to the possibility of participation in the refined pleasures of life." The function of secondary education thus comprises three classes of aims, vocational, social, and culture aims, and the author has no difficulty in justifying this conception, which he believes will make of the secondary school "a guiding, inspiring, undying force in American life."

It is not necessary to follow Professor Hanus in his further development of this ideal, the realisation of which he says, truly, requires ardent devotion on the part of the teachers and the intelligent and interested co-operation of the community. That those concerned in the subject of education may gain a proper insight into the conditions of the problem, they cannot do better than read carefully the present work, which does credit to the publishers as well as to the author.

C. S. W.

AN ESSAY ON PERSONALITY AS A PHILOSOPHICAL PRINCIPLE. By the *Rev. Wilfrid Richmond, M. A.* London: Edward Arnold, 37 Bedford Street. 1900. Pages, xix, 219. Price, 10s. 6d.

This is the first work, so far as we know, devoted to a consideration of personality as a philosophical principle. Much has been written incidentally as to the relation between "personality" and "individuality," but the distinction to be made in the use of these terms is by no means clear, and, indeed, they are still employed by many writers as synonyms. Mr. Richmond remarks that in modern philosophical literature, personality is assumed to be "essentially individual, essentially limited," and it is evident that he regards the individuality as limited. Thus he speaks of philosophy as tending to individualism, the philosophy of the individual life. This is quite consistent with his view as to the nature of personality, which he defines as "the capacity for society, fellowship, communion," and as personality stands for fellowship, individuality stands for isolation. Possibly it would be nearer to the truth to say that individuality stands for unity and personality for diversity, but the subject is too wide for discussion here, and it will be more to the purpose to consider Mr. Richmond's theory. This is based on experi-

ence, as the ultimate first principle and the final test of philosophy. Experience may mean the events of the individual consciousness, or it may be regarded as simply thought, but to the author the reality in experience is "personality."

How does Mr. Richmond arrive at this conclusion? In considering the meaning of the word "personality," he remarks that the earliest meaning of "persona," the actor's "mask," has long ceased to be current, and that even its secondary application to the actor himself survives only in the heading of the list of the "characters" in a play. He adds, however, that it is suggestive to find that "so far as 'person' is a name for him, the individual man is viewed first under his social aspect, as playing a part in the commerce or dialogue of life, as an element in the general human scene, as fulfilling a certain function in the evolution of the drama of destiny." The first aspect under which personality presents itself is the bodily aspect—the face in which we read the soul—and therefore "to view the visible personality as a mask is to indicate an unseen reality of which it is the manifestation." There is, in fact, "an archetypal being within, which produces this impression upon other men." Self-manifestation to others is the idea implied, and hence there is no suggestion that the manifestation is a deception and life a masquerade. Continuing his discussion, the author states that the word "person" took its place in common language with a meaning connected with its legal use. Here "the person is primarily the subject of rights. And right is defined as a relation of persons, a faculty or privilege of one person with a correlative duty of another person." The development of personality is connected, therefore, with that of rights, and we are told that "the individual emerged into personality out of the family, where at the beginning of the individual life his rights and his personality were absorbed in the father of the family. And he emerged into personality by emerging into citizenship, into the life and society of the state. The state, the society, gave him his privileges as a citizen, and in giving them, also conferred upon him, at any rate in fact, the liberty which, in idea, in later Roman times was his original and natural right." The person is conceived only as a social being; the actual personal life is the social life.

After referring to the influence of the conception of personal responsibility and the use of the term "persona" as representative of the Greek word "hypostasis" in connexion with the theological doctrine of the Trinity, "in which personality attaches to God not as one Person, but as Three"—God being One, individual, in the sense that He is whole, complete in Himself—the author considers the modern use of the terms "person" and "personal." He shows that, although such phrases as "personal sympathy," "personal affection," and "personal religion" emphasise the sense of *individual* life, yet this always has relation to other persons or to society. Thus, personal liberty and personal property are assertions of the claim of one person against others. The author ingeniously remarks that "the most personal feelings, e. g., those of melancholy and depression, are the sheer

protest of the individual soul against his isolation from that communion with h[illegible]is spiritual kind in which a personal being lives the truly personal life."

In his third chapter the author proceeds to justify his definition of personali[illegible]lity as "the capacity for society, fellowship, communion." He points out that, in th[illegible]the region of action, individual desire is, in its issue, social, and that law is "a colle[illegible]llec-tive fact, an evidence of the fellowship of persons, of which it is the creation[illegible]n." Law is represented in the individual by conscience, which is "the organ in the i[illegible]in-dividual personality of the impulse towards collective life in the region of action[illegible]," leading to the aspiration after the perfect moral fellowship witnessed by religio[illegible]n. Applying the same ideas to the region of the intellect, the author argues that in[illegible]di-vidual perception, as perception of fact, is, in reality, "a perception of the indivi[illegible]id-ual as the organ of the collective experience," pointing out that the individual mi[illegible]nd begins to exercise intelligence in an intelligent, a thinking, society. He affir[illegible]ms truly that language is the creation of the collective intelligence, while the claim to authority of the individual judgment is based on the recognition of the authority of the collective mind. In the region of emotion, which is co-extensive with the social life of man, individual life consists in membership of the collective life, "of the various forms of social union into which the individual has been absorbed." This is particularly observable in religion, as exhibited by Christianity, which is the embodiment of the supreme emotion and has created a new form of fellowship and through it given intensity to all earlier forms.

We have dwelt so fully on his fundamental thesis that we have not space left in which to follow the author in his application of the idea of personality, as capacity for fellowship, to the various forms of personal life. This comprises the second and largest part of his work, which treats fully of Feeling, Will and Intellect under their various aspects, and of Emotion, as pleasure, beauty, and love, and those who take an interest in these subjects will be amply repaid for its perusal.

C. S. WAKE.

THE PEACE CONFERENCE AT THE HAGUE, and Its Bearings on International Law and Policy. By *Frederick W. Holls, D. C. L.*, A Member of the Conference from the United States of America. New York: The Macmillan Co., London: Macmillan & Co., Ltd. 1900. Pages, xxiv, 572. Price, $3.00.

The Peace Conference here chronicled was an event of such great moment, and the literature devoted to its actual work is necessarily so slight, that Dr. Holls's account of it and its bearings will be heartily welcomed. His book is not an official statement of the proceedings of the Conference, yet owing to the position occupied by the author it bears the stamp of authority, which is confirmed by its permitted dedication to the Emperor of Russia, at whose suggestion the Conference was convened. The official records of the proceedings have not yet been published in English, but as Dr. Holls has had access to the reports of the American Commission and to the files of the State Department, and as he was able to make use of

the reports made to the Conference by its various Committees, he had ample material from which to draw for the present work, which is written primarily for American and English readers, but refers sufficiently to the action of the other Powers.

It was thought at first that the object of the Conference would be the formulation of a scheme for Disarmament, but this notion proved to be mistaken, peace as a preventive and the regulation of the means of war being its great aim; although much good work was done in the way of humanising warfare and limiting armaments and also in relation to the laws and customs of war and the adaptation to maritime warfare of the principles of the Geneva Convention respecting hospital service. About two hundred pages of Dr. Holls's work are taken up with an account of the work of the Third Committee, which had charge of the proceedings for the institution of means for the maintenance of general peace, that is for the peaceable adjustment of international differences. The treaty drawn up and ratified by the Powers provides three methods by which this adjustment may be brought about, namely, Good Offices and Mediation, International Commissions of Inquiry, and International Arbitration. As to the methods by Mediation and Inquiry, there is nothing in them obligatory on the nations in dispute, and their chief value would probably be in facilitating the settlement of differences by giving time for the dissipation of angry feeling between the peoples concerned. Nor is there anything in the Treaty of Peace which renders it obligatory for nations to have recourse to arbitration for the settlement of their differences. What was effected by the Peace Conference was the establishment of a Permanent Court of Arbitration, through the agency of which international disputes can be settled, if the Powers directly connected are willing to refer them to arbitration; although the signature of the agreement to arbitrate implies an undertaking to submit to the award.

It may be thought by some persons that, as the Peace Treaty does not provide for the compulsory settlement of disputes between nations, it will fail of practical effect. Such is not the opinion of Dr. Holls, who avows his conviction that "the Peace Conference accomplished a great and glorious result, not only in the humanising of warfare and the codification of the laws of war, but, above all, in the promulgation of the Magna Charta of International Law, the binding together of the civilised powers in a federation for justice, and the establishment of a permanent International Court of Arbitration." To the objection that, as all the proposed substitutes for war are left entirely to the voluntary choice of the nations concerned, no real advance towards lasting peace has been made, the author replies that the Conference purposely trusted to the growth of public opinion and the public conscience for ensuring the carrying out of the aims of The Hague Treaty. He quotes the remark made by Baron d'Estournelles, one of the French Commissioners, as bearing on that point: "War has now been solemnly characterised as a conflagration, and every responsible statesman has been appointed a fireman, with the first duty of putting it out or preventing its spread." The author is quite justified, therefore, in regarding the Peace Conference as representing a step in the upward

progress of the world. As the adoption of Magna Charta led to the development of English Constitutional law and the replacing of the "rude clerics" of the earlier period, who assisted the "ruder litigants," by the "glorious company of English jurists"; so now there will be a development of International Law, and for the old idea of diplomacy will be substituted something far nobler. Instead of "lying for one's country," the aim of diplomacy will become, as Matthew Arnold would say, to make "reason and the will of God prevail." This is the view held by Dr. Holls who affirms truly that "the highest manifestation of the art of politics is *tact*, which is the flower of all human culture, physical, intellectual, and moral, and to be an ideal diplomat is rightly the ambition of many of the world's true aristocrats."

It is a satisfaction to note the important work performed at the Peace Conference by the representatives of the United States. The first draft of Article 8 of the Arbitration Treaty providing for Special Mediation was introduced by Dr. Holls himself, his idea, which he does not claim to be original, being to apply the provisions of the recognised code of duelling to international relations. From the beginning the American representatives declared that their chief object at the Conference was the establishment of a permanent Court of Arbitration, and, although the honor of taking the lead in the steps introductory to that great end was reserved for Lord Pauncefote, the chief delegate of Great Britain, their efforts conduced largely to the attainment of the result. One of the most important parts of the Treaty, so far as the United States is concerned, is the indirect recognition by the European Powers of the Monroe Doctrine, which was acquired through the addition to Article 27, dealing with the duty of the signatory Powers to remind disputants of the existence of the Court of Arbitration, of a declaration reserving to the United States "its traditional attitude towards purely American questions." The Conference furnished a fitting opportunity for obtaining that recognition, which was unanimously given by the representatives of all the Powers without hesitation. The American representatives were not able to induce the Conference to consider their proposition giving immunity to private property on the high seas during war, it not being germane to the subject under discussion, but they had the satisfaction of securing from the Third Committee a resolution, which was adopted unanimously by the Conference, in favor of the proposition being included in the programme of a future Conference.

In addition to the several topics referred to above, Dr. Holls gives an interesting account of the proceedings of the Conference from day to day, concluding with a discussion of the bearings of the Conference upon international law and policy. The Appendices, which comprise a large portion of the book, contains the full text of the final Act, Treaties, and Declarations adopted by the Conference, a copy of the General Report of the United States Commission, with copies of the Reports of the American members of the various Committees, and finally an account of the proceedings of the Hugo Grotius celebration at Delft, held July 4, 1899, the one

hundred and twenty-third anniversary of American Independence. This forms a fitting conclusion to a work which requires no commendation from us. It may safely be left to the public on its own merits. C. STANILAND WAKE.

PHYSIKALISCH-CHEMISCHE PROPÆDEUTIK. Unter besonderer Berücksichtigung der medicinischen Wissenschaften und mit historischen und biographischen Angaben. By *Professor Dr. Med. and Phil. H. Griesbach.* Zweite Hälfte, 3. Lieferung: Band I, Bogen 60–62 mit Figur 202–210, sowie Titel, Vorwort und Inhalt; Band II., Bogen 1–22 mit Figur 211–302. Leipsic: Verlag von Wilhelm Engelmann. 1900. Price, 10 marks.

The propædeutics of physics and chemistry for students of medicine and pharmacy on which Dr. Griesbach has been engaged for a number of years forms the most practical general survey of the broad field of physical science to be had. It is difficult to give in the brief space at our disposal an adequate idea of the ground covered by this work, the first two installments of which were reviewed in *The Monist* for January, 1897. The contents of Volume I., which is but just completed by the first pages of the present installment, alone cover some forty pages. We shall merely run over its main headings, which indicate that the subjects treated and sketched in the first volume are as follows: the logical methods and aims of the physical sciences, causality, graphic modes of representation, the principles of the measurement of space and time, matter, energy and force, mechanics, the constitution of matter and the ether, the history of the atomic theory, organic and inorganic matter, cellular physiology and bacteriology (200 pages), the porosity of matter, capillarity, atmospheric mechanics, the physics and chemistry of gases, liquids, etc., the aggregate states of matter, including the theory of elasticity, density, etc., crystallography, etc., the theory of energy, the theory of heat in its relation to physiology, etc. The total number of pages in Volume I., as completed in the first pages of the installment constituting the present volume, is 992.

The remainder of the present installment is taken up with a study of the methods of measuring temperatures, with gravitation as the most widely diffused form of mechanical energy, with the notion of potential in its bearing on gravitation, with weight and mass, specific gravity and density, the determinations of mass and specific gravity, and finally with sound as a special form of mechanical energy. In all these cases the bearing of the different subjects on physiology and hygiene is prominently emphasised.

His book appearing at the dawn of the new century, Dr. Griesbach has taken the opportunity to preface its latest installment with some general considerations on the educational outlook of science. Two facts are strikingly apparent here: one is the necessity of a more general scientific culture for the individual, and the other is the high import which is to be attributed to historical studies in science. With the exaggerated specialism of the period which has just closed, the difficulty of acquiring a logical and all-around survey of the entire scientific field has been greatly

augmented. But soundness and accuracy of judgment and practical tact are impossible without some knowledge of the relationships which our own department of inquiry bears to others, and it is this general knowledge as based upon historical and biographical studies that Dr. Griesbach has endeavored to supply. By indicating at all points the intimate connexion obtaining between the various physical sciences, and by emphasising the continuity and solidarity of their development he has striven to furnish a secure and broad foundation for subsequent special studies. While the work is designed more expressly for chemists, physicians, and pharmacists, and consequently deals more particularly with the relations of physics and chemistry to bacteriology and medicine, it possesses nevertheless an entirely independent value as a well correlated introduction to science at large. The publishers have done much to provide for a practical form of typographical presentation, and the numerous illustrations of instruments, etc., have been gathered at a considerable expense from leading text-books, works of original inquiry, periodical literature, etc. The bibliographies which the author has added to each subject have been made with knowledge and skill, and render the work also an invaluable one for purposes of reference.

STUDIES: SCIENTIFIC AND SOCIAL. By *Alfred Russel Wallace, LL. D., D. C. L., F. R. S.*, etc. In two volumes. With numerous illustrations. London: Macmillan and Co., Limited. New York: The Macmillan Company. 1900. Pages, Vol. I., xv, 532; Vol. II., viii, 535. Price, $5.00.

Mr. A. R. Wallace has done well to collect in book form the various more important articles he has contributed to reviews and other periodicals, seeing that they were intended to be, as he calls them, "studies" dealing with problems of great moment, not merely scientific, but educational, political, and social, in which he is greatly interested. The book is not, however, a mere reprint. In order to make the subjects treated of as interesting as possible to the general reader, the author has introduced copious illustrations, and in many cases has considerably modified and enlarged the original article, the whole receiving careful revision. The subjects are arranged in classes, which fall into the two categories of Scientific and Social, to the former of which volume one of the work is devoted, the second volume being confined to social questions. Some reference will have to be paid to these, but the subjects discussed in the first volume will necessarily engage our chief attention. They are classed under the heads of "Earth Studies," "Descriptive Zoology," "Plant Distribution," "Animal Distribution," "Theory of Evolution," "Anthropology," and "Special Problems." We have here scope for a wide range of discussion, but all the questions considered are closely related as phases of the all-important subject of evolution, taking this term in its widest sense as applicable to the earth and its inhabitants.

The theory of evolution, with which Mr. Wallace is specially associated, is dealt with in four chapters, reference to which we will make in their order. The first,

which is chapter fourteen of volume one of the general work, deals with "The origin of Species and Genera," and it begins by referring to the fact, usually ignored, that Mr. Darwin, of whose theory of natural selection the author is the most strenuous supporter, in the latest edition of his great work on the origin of species, spoke of life as being derived from a divine source. His exact words, as given by Mr. Wallace, who deserves great credit for allowing so fully the claim of Mr. Darwin to the discovery of that theory although it was simply a matter of prior publication, are as follows: "There is grandeur in this view of life, with its several powers, having been originally breathed by the Creator into a few forms or into one; and that, while this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning, endless forms most beautiful and most wonderful have been and are being evolved." It should be pointed out, however, that, as Mr. Wallace mentions, Darwin in a letter to Sir Joseph Hooker, written in 1863, states that in using the term "Creator" he meant "appeared by some wholly unknown process." He added: "It is mere rubbish thinking at present of the origin of life; one might as well think of the origin of matter." Such being the case, it is evident that the reference to the breathing of life by the Creator is merely a "poetical expression" and not intended to convey any idea of the method by which living forms originated.

Those who have not carefully studied Mr. Darwin's views are disposed to think that he regards natural selection as the only agency at work to give rise to new species and genera. As the author points out, this is a great mistake, as Mr. Darwin distinctly recognised the operation of "causes of which we are almost wholly ignorant, as we are of the nature of life itself." One of these causes, that of *variability*, is particularly discussed by Mr. Wallace, who replies to those who object to natural selection as producing new species owing to the enormous chances against the right kind of variation occurring just when required, that variation is "one of the most constant and universal facts of nature, always producing what may be termed the raw materials of species in overflowing abundance, so that, whenever and wherever alteration of the conditions of existence is going on, there is always ready to hand an ample stock of varying organisms, by means of which an almost exact adjustment to those conditions may be kept up." The author is careful, however, not to claim too much for variation and natural selection, by remarking that while individual variation with natural selection is adequate for the production of the separate species of one genus, of one family, or perhaps of one order from a common ancestor, "we have no proof and hardly any good evidence that it is adequate to initiate those important divergences of type which characterise" the separate orders, classes, and subkingdoms. And yet he affirms that the whole body of evidence clearly indicates that all alike have been produced by "descent with modification" from a few primitive types.

In his chapter on "The Method of Organic Evolution," Mr. Wallace points out that the modern doctrine of organic evolution dates from the time of Buffon,

who maintained that Nature is in a "state of continual flux and movement," and that she can do all "except create matter or destroy it." These views as modified by Lamarck and other writers obtained considerable weight with the best thinkers, but not before Darwin had any one been able to show how "the wonderful and complex adaptations of living things to their environment could have been produced by means of known laws and through causes proved to exist and to be of sufficient potency." The four great facts on which his theory is based are variation, rapid multiplication, and the resulting struggle for existence, and survival of the fittest. By reference to these facts organic evolution is more easily explained than by the Lamarckian idea of the direct action of the environment on the organism. After the discussion of this question, the author proceeds to consider the theories of the Discontinuity of Species and of Organic Stability, originated by Mr. Bateson and Mr. Galton respectively, as substitutes for natural selection, partial or complete. These efforts to establish new methods of organic evolution he declares to have "completely failed to establish themselves as having any relation to the actual facts of nature," owing to the fact that attention has been devoted to one set of facts to the exclusion of others both more general and more important.

In a chapter devoted to the consideration of the "Problem of Utility" Mr. Wallace discusses the views expressed by Mr. Romanes in his work *Darwin and After Darwin*. In the preface to this work Mr. Romanes states that his arguments had "broken to fragments" the doctrine of utility, and had "made a full end thereof." In lieu of utility, he finds five causes of modification—climate, food, sexual selection, isolation, and laws of growth. Mr. Wallace in criticism of this view enforces the fundamental argument that "whereas every modification of a species which arises under the influence of natural selection must, from the very nature of its origin, be useful to the new form, no other agency has been shown to exist capable of producing utilitarian characters *in every individual constituting a species, neither more nor less.*" As to the particular causes spoken of by Mr. Romanes, he affirms that although climate and food produce modification in the individual it has not been proved that such modifications are hereditary. Sexual selection, the author declares, is only a form of natural selection, and sexual characters are therefore useful characters. Isolation he does not regard as a true cause; it is at most only an aid to the differentiation of new species by natural selection. Finally, the laws of growth cannot account for *specific* characters and the peculiarities with which they are concerned in higher groups must at first have had a utilitarian character. One of the questions here referred to is discussed in a separate chapter entitled "Are Individually Acquired Characters Inherited?" On the affirmative side of this question are ranged Mr. Darwin and Mr. Spencer, the other side being Mr. Francis Galton and Professor Weismann. Mr. Wallace considers in detail the most important arguments used in support of the proposition that individually acquired characters are inherited and he comes to the conclusion that the balance of evidence yet adduced is altogether the other way. Mr. Spencer's main

arguments to prove the inadequacy of natural selection to account for certain modifications are, according to the author, inconclusive, "since they are either founded on comparatively unimportant and adventitious peculiarities, or on a neglect of some of the most important conditions under which natural selection in its various forms comes into play."

We can only name some of the remaining subjects discussed in the first volume of Mr. Wallace's important work. "The Group of Earth Studies" includes "The Permanence of Oceanic Basins," "Our Molten Globe," and "The Ice Age and Its Work." In the other groups we have valuable chapters on "Monkeys," "The Disguises of Insects," "The Distribution of Plants," particularly in North America, and the "Evolution and the Distribution of Animals." Under the head of Anthropology Mr. Wallace reproduces his Studies on the Polynesians, on the natives of New Guinea, and on the "Affinities and Origin of the Australian and Polynesian Races." All these chapters are well-illustrated. The space at our command will not allow us to enter into details on the subjects discussed by Mr. Wallace in his second volume. They are divided into Educational, Political, Ethical, Sociological, and the Land Problem. Most of the questions considered are treated of from the author's well-known socialistic standpoint. In a chapter on "Speech," which deserves careful consideration, Mr. Wallace associates the origin of spoken language with that of gesture language of which it is said to be a kind of imitation. The only place where he allows his spiritualistic views to reveal themselves is when discussing the question "Why live a Moral Life?" This he considers the Rationalist and the Agnostic has no adequate motive for doing, "except so far as he is influenced by public opinion and by a belief that, generally, it pays best to do so." The only adequate motive for a moral life he finds in the teachings of Spiritualism. This lame conclusion and his general argument on this topic seem to us to betray a sad deficiency of power to realise the real nature and conditions of the subject, which is surprising considering the power of reasoning and appreciation of difficult problems displayed in other portions of Mr. Wallace's work which will deservedly have a large number of readers.

C. S. WAKE.

LEÇONS DE CHIMIE PHYSIQUE PROFESSÉES À L'UNIVERSITÉ DE BERLIN. By *J. H. Van't Hoff*, Membre de l'Académie des Sciences de Berlin, Professeur ordinaire à l'Université et directeur de l'Institut de Physique de Charlottenbourg. Ouvrage traduit de l'allemand par *M. Corvisy*. Troisième partie: Relations entre les propriétés et la composition. Avec un portrait gravé de l'auteur. Paris: Librairie Scientifique A. Hermann. 1900. Pages, ii, 170. Price, 7 francs.

This work on the relations existing between the properties and the constitution of matter is a reproduction of the lectures which Professor Van't Hoff delivered at the University of Berlin in 1898 and 1899. It forms the third and last part of a treatise on physical chemistry, the first two parts of which, treating of chemical

dynamics and chemical statics, have already appeared in German, French, and English and have been noticed in *The Monist*. Professor Van't Hoff has followed in his lectures the general method laid down by Lothar Meyer in the last editions of his *Modern Theories of Chemistry*, where the subject is divided into the two grand general divisions of *Statics* and *Dynamics*. Statics treats of bodies considered apart and by themselves, of the constitution of matter, of atoms, molecules, of the structure and of the configuration of molecules. Dynamics is devoted to the actions of bodies upon one another, to chemical transformations, affinity, chemical equilibrium, etc. The third division of the subject, which treats of the relations between the properties of bodies and their composition, has been added by Professor Van't Hoff, who has departed from the classical programme merely in making dynamics precede statics. The reason for this has been that in recent years dynamics has acquired a much vaster and securer foundation by the association of the theory of chemical equilibrium with thermodynamics, and now takes its place as the natural and logical support of the theoretical edifice of chemistry. Logically it would seem that the problem of statics is a much simpler one, being concerned with single bodies in equilibrium, while dynamics is concerned with a complicated aggregate of bodies in reaction; but this consideration loses its apparent validity when it is reflected that single bodies correspond to a final state of equilibrium following upon reaction. The logical advantage of the order which Professor Van't Hoff has chosen is that at the outset there is no need whatever for any hypothesis concerning the nature of matter; the conception of the molecule is alone sufficient. The atomic hypothesis is in this way relegated to the second part of his work, where the complex problems relating to structure first occur.

The volume is divided into two parts treating (1) of the relation between physical properties and composition, and (2) of the relation between chemical properties and composition. An excellent portrait of Professor Van't Hoff forms the frontispiece.

ELEMENTE DER STEREOMETRIE. By *Prof. Dr. Gustav Holzmüller*. Zweiter Teil. Die Berechnung einfach gestalteter Körper. Mit 156 Figuren und zahlreichen Uebungsbeispielen. Leipzig: G. J. Göschensche Verlagshandlung. 1900. Pages, xv, 477. Price, bound, 10.80 marks.

The second volume of Professor Holzmüller's extensive treatise on Solid Geometry fulfils completely the expectations which were entertained of it. The work is the most exhaustive elementary text-book that we have, being elementary in the sense that the higher analysis and the analytical geometry of space are excluded from the treatment, although on the other hand the methods of descriptive and modern synthetic geometry have been widely employed, and the researches of Steiner, Möbius, Gauss, Monge, Chasles, and Poncelet exploited to the full. Besides the Euclidean procedure, the principles of reciprocity or duality, the methods of parallel and central projection, affinity and collineation, inversion, reciprocal polars,

and even barycentric methods, have been introduced. The development is carried far beyond the usual limits, for not only are the simple polyhedra treated but also more difficult forms receive consideration, such as prismatoids with plane and hyperboloidal lateral surfaces, the Archimedean polyhedra and their reciprocals, the Kepler-Poinsot solids, etc. Conical surfaces, Dupin's cyclides, surfaces of revolution, screw and developable surfaces, surfaces of constant positive and negative curvature, gauche curves, etc., are also dealt with. The materials for exercises have been enriched by drawing freely upon the resources of applied mathematics, mechanics, mechanical engineering, crystallography, physics, mathematical geography, cartography, geodesy, astronomy, and navigation. Entire chapters, in fact, are devoted to these applications in the present volume, while Volume III., which is announced for the autumn of 1901, is to contain numerous examples from the theory of potential and from the doctrines of energy and moments of enertia. The historical references also are rich; so that upon the whole, the work may be said to be unequalled as regards either variety or solidity.

BERKELEY'S DREI DIALOGE ZWISCHEN HYLAS UND PHILONOUS. Ins Deutsche übersetzt und mit einer Einleitung versehen von *Dr. Raoul Richter*, Privatdozent an der Universität zu Leipzig. Leipzig: Verlag der Dürr'schen Buchhandlung. 1901. Pages, xxvii, 131. Price, 2 marks.

BERKELEY'S ABHANDLUNG ÜBER DIE PRINZIPIEN DER MENSCHLICHEN ERKENNTNIS. Ins Deutsche übersetzt und mit erläuternden und prüfenden Anmerkungen versehen von *Dr. Friedrich Ueberweg*, weil. ord. Professor der Philosophie an der Universität zu Königsberg. Dritte Auflage. Leipzig: Verlag der Dürr'schen Buchhandlung. 1900. Pages, xiv, 149. Price, 2 marks.

JOHN LOCKE'S VERSUCH ÜBER DEN MENSCHLICHEN VERSTAND. In vier Büchern. Zweiter Band. Uebersetzt und erläutert von *J. H. v. Kirchmann*. Zweite Auflage, bearbeitet von Pf. em. *C. Th. Siegert*. Leipzig: Verlag der Dürr'schen Buchhandlung. 1901. Pages, 381. Price, 3 marks.

PLATO'S STAAT. Uebersetzt von *Friedrich Schleiermacher*, erläutert von *J. H. v. Kirchmann*, Zweite Auflage, bearbeitet von Pf. em. *C. Th. Siegert*, Leipzig: Verlag der Dürr'schen Buchhandlung. 1901. Pages, vii, 493, Price, 3 marks.

The well-known *Philosophische Bibliothek* of J. H. von Kirchmann, which is one of the most comprehensive cheap collections of philosophical writings that we have in any language, is now published by the Dürr'sche Buchhandlung of Leipzig. The size and appearance of the newer volumes has been changed; the type is larger, and the printed pages more free and readable in every respect; the reprints of the older volumes are still published in the old form. The latest issue of the collection is a German translation of Berkeley's three dialogues between Hylas and Philonous, by Dr. Raoul Richter, privatdocent in the University of Leipzig. The

number of this latest issue, 102, will give some idea of the scope of the collection, which includes German translations of the works of Aristotle, Bacon, Berkeley, Bruno, Cicero, Condillac, Descartes, Grotius, Hume, Leibnitz, Locke, De la Mettrie, Duns Scotus, Sextus Empiricus, and Spinoza, as well as editions of the German philosophers Kant, Fichte, Hegel, Schleiermacher, etc.

We have also just recently received from the publishers new reprints of the translations of the second volume of Locke's *Essay on Human Understanding* (price, 3 marks), the second edition of Schleiermacher's translation of Plato's *State* (price, 3 marks), and the third edition of the German translation of Berkeley's *Principles of Human Knowledge* (price, 2 marks). The prices of the collection are not high, varying from 15 cents for an average of eighty pages to 75 cents for books of from 400 to 500 pages.

AN ENQUIRY CONCERNING HUMAN UNDERSTANDING. By *David Hume*. Reprinted from the edition of 1777, with Hume's autobiography and a letter from Adam Smith. Chicago: The Open Court Publishing Co. London: Kegan Paul, Trench, Trübner & Co. 1900. Pages, xvi, 180. Price, paper, 25 cents (1s. 6d.).

The present little volume is one of a number of philosophical and scientific classics which it is the intention of the publishers to incorporate in their Religion of Science Library. Descartes's *Discourse on Method* was the first to appear, and Kant's *Prolegomena* will in all likelihood also be published. The intention is to furnish cheap and substantial editions of the concisest and most representative works of the great philosophers.

Hume's *Enquiries Concerning Human Understanding* and *Concerning the Principles of Morals* were formally proclaimed by him to be the sole productions by which his philosophical sentiments and principles should be judged; and while some historians are inclined to the belief that his *Treatise of Human Nature*, which the *Enquiries* were written to replace, furnishes his soundest claim to a place among the great thinkers of Europe, it is nevertheless true that the *Enquiries* are far more concise, elegant, and lucid than the older *Treatise*, and that for general purposes they afford a much easier and more pleasant introduction to his thought.

The volue of the present volume, which is simply a reprint from the posthumous edition of 1777, has been enhanced by the addition of Hume's well-known autobiography and the letter from Adam Smith usually prefixed to Hume's *History of England*. A reproduction of the portrait of Hume, by Ramsay, forms the frontispiece to the volume.

LA TEORIA DEI BISOGNI. By *Camillo Trivero*. Turin: Bocca Bros. 1900. Pages, 198.

This work is number twenty-three of the Little Library of Modern Science (*Piccola Biblioteca di Scienze Moderne*) of which the Brothers Bocca are the edi-

tors. Other numbers of this Library have been noticed in these columns. We have in the present volume a thorough discussion of the theory of wants—thorough as far as it goes, for, as the author says, an exhaustive treatment would include all human history. Among the topics discussed are: the general concept of want, its extension and value, the division of wants and the corresponding division of the sciences and arts, what should be understood by a classification of wants, consciousness, its degrees and forms, and the functions of the theory set forth. The writer opposes the materialistic conception of history and the whole book may be briefly described as a rejoinder to those who have ascribed primary importance and dominance to economic wants. Its message to the disinherited is "O people, you are *human*, but in the widest meaning of the word. Educate yourselves! Elevate yourselves! Economic progress is intimately connected with so many other things. Honesty is the foundation of it. But honesty does not depend upon the individual will alone; it depends upon tradition, usage, public morality, laws, etc. But these will not better themselves without *knowledge*. Then again I say, educate yourselves, and your advance will be complex and general." I. W. H.

DELL' UNITÀ DELLE SCIENZE PRATICHE. By *Gaetano Jandelli*. Milan: Capriolo and Massimino. 1899. Pages, 439.

The book represents an effort to trace out the principle lying at the base of and presupposed by all the practical sciences. It is impossible in a brief notice adequately to describe, or even to mention, the salient features of this work which even a cursory examination shows to be full of pregnant thoughts. It is a scholarly and profound work on Practical Philosophy as defined by John Stuart Mill in his *System of Logic*. The range of such a book is implied by its title. Its theological trend may arouse suspicion, but its searching criticism of the various theories of morals will win the admiration if not the approval of the reader. I. W. H.

LA RIDUZIONE PROGRESSIVA DELLA VARIABILITÀ E I SUOI RAPPORTI COLL' ESTINZIONE E COLL' ORIGINE DELLE SPECIE. By *Daniele Rosa*. Turin: Carlo Claussen. 1899. Pages, 133.

Professor Rosa in this volume contributes a brief but interesting and scholarly discussion of some important phylogenetic problems. Beginning with an inquiry into the causes of the extinction of species, he is gradually led to a consideration of the various theories concerning their origin. The book is divided into three chapters with the following titles, respectively: The Extinction of Species and the Progressive Reduction of Variation; Progressive Reduction of Variation and Progressive Reduction of Variability, and, finally, the Progressive Reduction of Variability and the Origin of Species. The basis of the whole discussion is the proposition that species which have disappeared without necessary modification are generally the most perfect. This fact is accounted for in the first chapter by the law of progressive reduction of variation, which corresponds pretty closely to Cope's "law of

the unspecialised," as set forth in his *Primary Factors of Organic Evolution*. The difference is this, that the law of progressively reduced variation "is applied to all forms, even to those which could not be called specialised, as Cope used the word. It expresses a more general phenomenon which began to manifest itself at the very beginning of organic evolution" (p. 36).

Having determined the law just referred to, the author naturally proceeds to inquire into its causes, and this is the task of the second chapter. He finds that it is due to a more general law which he formulates as the law of progressively reduced variability. This second law holds not only with reference to species but also in regard to organisms, organs, and the histological elements. This conclusion is contradictory to that of Haeckel, for instance, who declares that there is no limit to the variation of organic forms. As to the causes of this law, whether they are extrinsic or intrinsic or both, the author is compelled to admit, after a somewhat extended consideration, that they are unknown.

In the third chapter the relation of the law of progressively reduced variability to certain frequently discussed questions in regard to the origin of species is considered, especially its relation to the theory of natural selection. With the latter it does not perfectly accord. The theory of progressively reduced variability, says Professor Rosa, leads us necessarily to orthogenesis. The facts of individual variation are not opposed to these two theories, because two kinds of variations must be admitted, namely, phylogenetic and individual. The author considers also the relation of his theory to preformation, epigenesis, and adaptation.

Among the interesting conclusions which may be drawn from the theories set forth in this work are the following: The cause of the absolute extinction of a group or species is its very perfection, since the increase of perfection is accompanied by reduced variation; the production of new forms and species cannot continue indefinitely, and finally every species evolves toward a condition of fixity. Works cited in the text are affixed to each chapter. I. W. H.

I Fatti Psichici Elementari. By *Adelchi Baratono*. Bocca Bros.: Turin, 1900. Pages, 107.

This little volume is not a psychological treatise for beginners, as its title might indicate, but a critical analysis of the data of consciousness, and an attempt to discover the fundamental fact which differentiates psychology from the sciences of biology and physiology. This is a task which the writer asserts it was not necessary to enter upon in the initial stage of the science, for the observation and classification of facts of a certain degree of complexity are a necessary preliminary for successful effort in this direction. Psychology has now reached a stage of development, however, when such an investigation may be fruitful in positive results. He therefore enters upon his examination of the so-called states of consciousness with the object of determining whether they are reducible to simpler elements.

After subjecting to vigorous criticism the theories of Spencer, Bain, Sergi, and

Wundt, the author accepts the conclusion that consciousness itself may not be considered as a fact in itself to be separated from knowing, feeling, and willing, but that it is present in them all. Unity of consciousness is therefore a composite which must be broken up into its elements. It does not follow perception, for instance, but accompanies it and constitutes its peculiar psychical character. "Consciousness, in fine, represents the *psichicità* of the facts of the mind" (p. 26).

This being the case, it is obvious that all mental facts, and consequently the elementary psychic facts our author is in search of, are facts of consciousness. To speak of unconscious psychic phenomena is to utter an absurdity (p. 41). Now in consciousness the final data at which we arrive are feeling, knowing, and willing, which according to Spencer and Wundt are but three phases of the same phenomenon. Not so with the present investigator. According to him they are distinct phenomena in our consciousness. Moreover, we find them as consecutive and as dependent upon one another. These, then, are the fundamental psychic phenomena. They are the "elementary psychic facts."

The author devotes some space to a discussion of the relation of the will to knowledge and feeling, and in the last chapter considers psychic development in its relation to the fundamental facts, and the representative process which, with the relations existing among the simplest psychic phenomena, gives the laws of every psychic fact. I. W. H.

THE LIFE, UNPUBLISHED LETTERS, AND PHILOSOPHICAL REGIMEN OF ANTHONY, EARL OF SHAFTESBURY, AUTHOR OF THE "CHARACTERISTICS." Edited by *Benjamin Rand, Ph. D.* Harvard University. London: Swan Sonnenschein & Co., Lim. New York: The Macmillan Co. 1900. Pages, xxxi, 535. Price, $4.00.

It is refreshing in these days of ephemeral literature to meet with a book of this character which combines interesting reading with subject-matter of great and permanent value. But it is seldom that such material as that which is brought together in this volume is available for publication. In his Prefatory Introduction, Professor Rand informs us that all the material for the work, except the letters addressed to Locke, was obtained from the Shaftesbury Papers deposited in the Record Office in London. It is strange that search was not made earlier for literary productions of the great English moralist, and if it had not been for the suggestion of Mr. Thomas Fowler, who made a partial examination of the Papers for the purposes of his work entitled *Shaftesbury and Hutcheson*, the manuscript of what Professor Rand describes as "one of the most remarkable unpublished contributions of modern times in the domain of philosophic thought," might not have seen the light for a considerable time to come. The *Philosophical Regimen*, which was written between the years 1698 and 1712, nearly two hundred years ago, forms the most important part of this book, and as it is "a revelation both of the inmost purpose and of the outward procedure" of the life of one of England's greatest moral-

ists it will attract much attention. About half of the present work is taken up with letters written by Shaftesbury, many of which are of great interest and throw much light on his character and disposition. It seems strange that such a man should have been alienated from his mother, and yet such was evidently the case, although the fault can hardly have been on his side. In a letter addressed to her after referring to his loss of her affection, through what action of his he did not know, he prays God that He would one day give her "the heart of a mother and restore him to the good-will and blessing of a parent." Happily the breach between them was repaired, as appears from another letter to his mother written nearly a year after the first. Among the most valuable letters now for the first time published is a series written by Shaftesbury to Lord Somers on presentation to him of copies of treatises written by the moralist as they were published. The first letter to Lord Somers was included in *The Characteristics* of Shaftesbury, as a "Letter Concerning Design." Among other persons of note, letters to whom appear in this correspondence, are the philosophers John Locke, Pierre Coste, Jean le Clerc, and Des Maiseaux.

But to return to *The Philosophical Regimen*. The matter of this treatise is better than the style, which although always strong, often good and in some places excellent, is in many other places spoiled by its repeated questionings. This was, however, Shaftesbury's method, an apt illustration of which may be taken from the conclusion of the discourse on the *Natural Self*, which furnishes also a short summary of his philosophy. After speaking of the order of the universe and the general mind which governs it, he continues: "Consider then what am I? what is this self? a part of this general mind, governing a part of this general body, itself and body both, governed by the universal governing mind, which, if it willingly be, it is the same as to govern with it. It is one with it, partakes of it, and is in the highest sense related to it. Τίς ὢν [What am I? Who?] Wonderful word! powerful question! if but rightly applied and used, not only in the first and leading sense, the natural self; but in the economical parts, and in every relation, station, and circumstance of life." The philosophy of Shaftesbury was practically that of Epictetus and Marcus Aurelius, whose doctrines he was said to have understood as well as themselves and their virtues to have practiced better. On this point we cannot do better than quote the words of Professor Rand, who, after stating that Shaftesbury was most thoroughly conversant with the works of those two writers, says: "From them he drank most of the topics and their maxims in the Regimen. He reproduces not only their thought but also to a considerable extent their technical language. It would be difficult indeed to find any author with quotations in every instance so apt as those which Shaftesbury makes from those writers. With their philosophy, moreover, he was most thoroughly saturated." The admiration for Shaftesbury expressed by Professor Rand is well deserved and no one is better qualified than himself to judge of the writer of *The Philosophical Regimen*, the permanent strength of which, he declares, "consists in the fact that it is one of the

most consistent and thorough-going attempts ever made to transform a philosophy into a life." He continues: "Just as Spinoza was 'God-intoxicated,' so Shaftesbury was 'intoxicated with the idea of virtue.' He is the greatest Stoic of modern times. Into his own life he wrought the stoical virtue for virtue's sake." He was, indeed, a living illustration of the truth of the affirmation made in his discourse of *Good and Ill*, that "the only true and real good is the enjoyment of a soul and mind freed from the incitements, commotions, and disorders of sense," a passage which explains the paragraph with which that discourse closes—"go to the source origin, and principle of excellence and beauty. See where perfect beauty is, for where that is, there alone can be perfect enjoyment, there alone the highest good."

The *Regimen* is preceded by a sketch of the life of Shaftesbury by his son, the contents of which were printed by Birch in the *General Dictionary* of Bayle, but this is the first time that it has appeared under the name of its real author. From this sketch we learn that although Shaftesbury was accused of disbelief in revealed religion, he was really a constant and devout attendant at the services of the Church of England. The study of his character and opinions as presented in this work will operate as an excellent moral "regimen." The book has for its frontispiece a good engraving giving a full-length figure of Shaftesbury, which we should judge to be an excellent portrait. C. S. WAKE.

THOMAS CARLYLE. By *Paul Hensel*. Stuttgart: Fr. Frommanns Verlag (E. Hauff). 1901. Pages, 212. Price, bound, 2.50 marks.

HERMANN LOTZE. By *Richard Falckenberg*. Erster Teil. Das Leben und die Entstehung der Schriften nach den Briefen. Mit Bildnis. Stuttgart: Fr. Frommanns Verlag (E. Hauff). 1901. Pages, 206. Price, bound, 2.50 marks.

The lives of Fechner, Hobbes, Kierkegaard, Rousseau, Spencer, Nietzsche, Kant, Aristotle, Plato, and Schopenhauer have already appeared in Frommanns *Klassiker der Philosophie*. The last two volumes are a biography of Thomas Carlyle by Dr. Paul Hensel, of Heidelberg, and a biography of Hermann Lotze by Dr. Richard Falckenberg, of Erlangen. Wundt, John Stuart Mill, and Goethe are to follow. It is rather odd to see Carlyle ranked as a classical writer on philosophy, but the series will not suffer by the inclusion of thinkers of all classes. Dr. Hensel has written a very interesting life of Carlyle and has most probably furnished a juster appreciation of his import and career than has yet appeared in English. The book reads entertainingly, and is adorned by a rather truculent-looking portrait of the great English thinker.

The Life of Hermann Lotze, by Professor Falckenberg, is to consist of two parts, the first of which, giving the history of his life and writings, lies before us. Dr. Falckenberg devotes over 100 pages to Lotze's life, which is rather uneventful, the remainder of the volume being taken up with the chronology of his literary productions. The fact that the life of Lotze is to fill two volumes is explained by

the fact that no detailed biography of Lotze is in existence, and the present work is really the first attempt to go more minutely into his history. Lotze's letters to his friends and students, notably to his publisher Hirzel, have been examined by the author, and much new material has been adduced in this way for elucidating the modes of living, working, and thinking employed by the celebrated author of the *Microcosmus*. Lotze held a recognised position as one of the foremost masters of German literary style, an attribute which is quite rare among the German philosophers; in the words of Professor Falckenberg, "his language was music, and no other German save Paul Heyse and Friedrich Nietzsche possessed so delicate a feeling for the rhythmic cadences of German prose." Professor Falckenberg has reproduced verbatim a considerable part of Lotze's correspondence, and his readers will thus be allowed to enjoy the unconstrained and unartificial beauties of Lotze's style at its best. Some of his unpublished poetry has also been added in the appendix, while a good likeness of the philosopher accompanies the volume.

WHENCE AND WHITHER? An Inquiry Into the Nature of the Soul, Its Origin and Its Destiny. By *Paul Carus*. Chicago: The Open Court Publishing Co.; London: Kegan Paul, Trench, Trübner & Co., Ltd. 1900. Pages, vi, 188. Price, cloth, 75 cents net (3s. 6d. net).

"Some psychologists of the modern school have characterised their science as "a psychology without a soul. They mean thereby that the old dualistic concep- "tion of the soul as a metaphysical ego-being, with faculties and functions, has "been discarded; that there is no such thing as a soul-entity; and that, accord- "ingly, our psychology must be reconstructed, pretty much after the manner in "which we might reconstruct the play of 'Hamlet' with the rôle of Hamlet "omitted. The author of this little book is fully aware of the gravity of the "charges that have been made against the old-fashioned soul-conception; in fact, "he is himself one of the most energetic supporters of the monistic philosophy, "but he would insist that, while a deeper insight into the nature of things necessi- "tates a revision of our science, the facts of man's soul-life remain the same as be- "fore, and the new psychology is not a psychology without a soul, but a psychol- "ogy with a new interpretation of the soul.

"The soul, it is true, can no longer be regarded as a mystical being, as an en- "tity, or an essence,—a something in itself, possessed of certain qualities and "endowed with faculties: the soul is not that which feels and thinks and acts, but "is the feeling itself, the thinking itself, and the acting itself; and the faculties, "so called, are simply various categories under which the several sets of psychical "functions may be subsumed.

"There is as little need for the psychologist to assume a separate soul-being, "performing the several soul-functions, as there is for the meteorologist to assume "a wind-entity, which, by blowing, produces a commotion in the air. According "to the positive school, the commotion in the air itself is the wind. But though

"we deny the existence of a metaphysical wind-entity, winds blow as vigorously as "they ever did; and why should the soul of the new psychology be less real than "the soul of the old psychology?"

"The dualistic conceptions of things-in-themselves, which are supposed to be "the agents of phenomena, constituting the concrete things, is gone forever; and "some thinkers to whom this conception of the world has grown dear, feel sad at "heart and sigh over the loss of their spiritual treasures, for they fancy that the "highest ideals of mankind have been impaired, and science is doomed to end in "dreary nihilism. But let us remember, that, if *things-in-themselves* have no "real existence, the *things themselves* remain. If the metaphysical soul-concep- "tion must be abandoned, the facts of our soul-life remain.

"The personality of man, so little understood before, is not of less significance "if we can analyse it and trace the fibres which enter into the wonderful system of "its make-up; and the unity of the soul is not gone, because man's psychical ac- "tivity is not a rigid unit, not an atom, not a monad. The soul is a complex or- "ganism, consisting of many ingredients and different parts with varied functions. "It is a compound, but, being an organism, it does not lack unity. It is subject "to change, but for that very reason it is capable of growth, of expansion, of ad- "vancement, and elevation.

"The main fact of man's psychical activity is the continuity of his soul, for "this is the ultimate basis for the identity of a man's personality through all the "changes of his development. The continuity and identity of each soul are condi- "tions which beget the feeling of responsibility, and thus force upon man the ne- "cessity of moral conduct.

"The first questions of psychology are the *Whence and Whither* of the human "soul; and we must understand their significance in order to be able to answer "the main question of life, 'What shall we do? How shall we act? Which aim "shall we pursue?'

"The continuity of man's soul-life is not limited to the span of time that lies "between birth and death; it extends beyond the boundary line of individual ex- "istence, and links the fate of each single person to the lives of his ancestors and "contemporaries, as well as to the generations to come.

"It is not impossible to comprehend the nature of man's soul, to trace its "*Whence* and to point out its *Whither*; and we trust that when a man has gained "an insight into the relation of his own being to the general life of the race, he "will think with greater reverence of the past and with more consideration for the "future. It will make him judicious in whatever he undertakes, and will serve "him as a mariner's compass on his journey over the stormy ocean of time."

The preceding paragraphs, which are a verbatim reprint of the preface which Dr. Carus has written to this his most recent utterances on the practical psychology of the human soul, will show, more forcibly than any mere description could, the purpose and character of the book. The subject is developed under five headings,

which read as follows: (1) The Nature of the Soul; (2) The Mould; (3) Whence? (4) Whither? and (5) Is Life Worth Living?

PÂLI BUDDHISM. By *H. H. Tilbe*, Professor of Pâli in Rangoon Baptist College. Rangoon: American Baptist Mission Press; Leipzig: Otto Harrassowitz. Pages, vi, 55. Price, 2 M.

The present booklet is a brief exposition of so-called Southern Buddhism. According to the author's view, a religion must be studied from three standpoints, viz.: (1) the environment in which it finds itself, including the life of its originator; (2) the means or system of theories by which the founder formulates the principle of salvation; (3) the *modus operandi* or practical institution through which he endeavors to realise his ends. The author concisely describes in the first chapter the intellectual and spiritual surroundings in which Gotama was brought up, while in the second chapter his personal life as gathered from the Pâli literature is recorded. The third and fourth chapters are devoted to a lucid enunciation of the Dharma, which was calculated by Buddha to be the means of destroying the endless succession of birth and death, and to a short delineation of the Buddhist institution known as Samgha, a sort of ethical association.

The work, according to the author, has been prepared especially to meet the practical needs of those students who desire to pass the Pâli examinations of the Calcutta University, and consequently it aims at furnishing "a brief, reliable, clear, well-arranged, and inexpensive outline of Gotama's real life and teaching." As such the book is a success in an eminent degree, though there will be some Northern Buddhists who may contest the author's assertion that Pâli Buddhism alone presents the "real" life and teaching of Buddha. Christian Missionaries who have but little time to spare may also profit by the reading of the present book.

T. S.

ERRATUM.

Page 8, line 7 from bottom of *The Monist* for October, 1900, for *Peter or Paul* read *John or Peter*.

The History of the Devil
and
The Idea of Evil

THE HISTORY OF THE DEVIL AND THE IDEA OF EVIL from the Earliest Times to the Present Day. By *Dr. Paul Carus.* Printed in two colors from large type on fine paper. Bound in cloth, illuminated with cover stamp from Doré. Five hundred 8vo pages, with 311 illustrations in black and tint. Price, $6.00 (30s.).

Beginning with prehistoric Devil-worship and the adoration of demon gods and monster divinities, the author surveys the beliefs of the Summero-Accadians, the Persians, the Jews, the Brahmans, the Buddhists, the early Christians, and the Teutonic nations. He then passes to the demonology of the Middle Ages, the Reformation, and modern times, discussing the Inquisition, witchcraft, and the history of the Devil in verse and fable. The philosophical treatment of the subject is comparatively brief, but the salient points are clearly indicated in every connexion.

"It is seldom that a more intensely absorbing study of this kind has been made, and it can be safely asserted that the subject has never before been so comprehensively treated. . . . Neither public nor private libraries can afford to be without this book, for it is a well of information upon a subject fascinating to both students and casual readers."—*Chicago Israelite.*

"As a remarkable and scholarly work, covering a subject not yet exhausted by the scientist and the philosophical historian, this book by Dr. Carus has a peculiar interest for the student, while it has also features of popular interest."—*Chicago Record.*

"The pictorial illustrations of this subject from earliest Egyptian frescoes, from pagan idols, from old black-letter tomes, from quaint early Christian sculpture, down to the model pictures of Doré and Schneider, add greatly to the value of the book."—*Methodist Magazine and Review.*

The Open Court Publishing Co.

324 DEARBORN STREET, CHICAGO

London: KEGAN PAUL, TRENCH TRÜBNER & CO., Ltd.

L'HUMANITÉ NOUVELLI

REVUE INTERNATIONALE ILLUSTRÉE

SCIENCES, LETTRES ET ARTS

Paraît mensuellement en un volume in-8° d'au moins 128 page

La Revue ne publie que de l'inédit.

DIRECTEUR SCIENTIFIQUE:
A. HAMON.

DIRECTEUR LITTÉRAIRE:
V. EMILE-MICHELET

L'HUMANITÉ NOUVELLE

est la moins coûteuse, la mieux faite, la plus complète et la pl indépendante de toutes les revues.

L'HUMANITÉ NOUVELLE

traite de: Sciences mathématiques, physiques, géographiqu biologiques; Lettres, Arts, Sociologie, Economique, Politiq Philosophie, Religion.

L'HUMANITÉ NOUVELLE

publie des articles dus aux meilleurs auteurs de tous les pa

Dans chaque numéro il y a des chroniques littéraire, art tique, théâtrale, politique, une revue des livres et revues toutes les langues et de tous sujets.

Aucune Revue ne peut rivaliser avec *L'Humanité Nouvel*

Envoi d'un numéro spécimen gratis sur demande.

ABONNEMENTS;

Union postale: un an 18 fr.; 6 mois 9 fr. 50; le N°: 1.75.
France et Belgique: un an 15 fr.; 6 mois 8 fr.; le N°: 1.50.

LIBRAIRIE C. REINWALD.

SCHLEICHER FRÉRES, Éditeurs.

VI. PARIS, 15 RUE DES SAINTS-PÈRES. VI.

Elementary Mathematics

A Brief History of Mathematics. By the late *Dr. Karl Fink*, Tübingen, Germany. Translated by *Wooster Woodruff Beman*, Professor of Mathematics in the University of Michigan, and *David Eugene Smith*, Principal of the State Normal School at Brockport, N. Y. With biographical notes and full index. Pp. 345. Cloth, $1.50 net (5s. 6d. net).

Not a book of anecdotes, nor one of biography; but a clear and brief statement of the *facts* of mathematical history. An invaluable work for teachers of mathematics.

"Dr. Fink's work is the most systematic attempt yet made to present a compendious history of mathematics."—*The Outlook.*

"This book is the best that has appeared in English. It should find a place in the library of every teacher of mathematics."—*The Inland Educator.*

On the Study and Difficulties of Mathematics. By *Augustus De Morgan.* With Portrait of De Morgan, Index, and Bibliographies of Modern Works on Algebra, the Philosophy of Mathematics, Pangeometry, etc. Pp. viii, 288. Red Cloth, $1.25 (4s. 6.) net.

"The point of view is unusual; we are confronted by a genius, who, like his kind, shows little heed for customary conventions. The 'shaking up' which this little work will give to the young teacher, the stimulus and implied criticism it can furnish to the more experienced, make its possession most desirable. This 'Mathematical Series' must be held one of the most notable achievements of *The Open Court.*"—*Michigan Alumnus*, April, '99.

Lectures on Elementary Mathematics. By *Joseph Louis Lagrange.* With Portrait of Lagrange, Notes, Biographical Sketch, Marginal Analyses, Index, etc. Red Cloth. Pp. 172. Price, $1.00 (4s. 6d.) net.

"When the next book of this series is out, send it along. It is the most valuable series published."—*William Bellis*, Central Michigan Normal.

"Historical and methodological remarks abound, and are so woven together with the mathematical material proper, and the whole is so vivified by the clear and almost chatty style of the author as to give the lectures a charm for the reader not often to be found in mathematical works."—*Bulletin American Mathematical Society.*

"Probably never equalled in the peculiar quality of leading the mind to see and enjoy the beauty as well as the accuracy of the science."—*Chicago Chronicle.*

Mathematical Essays and Recreations. By *Hermann Schubert*, Professor of Mathematics in the Johanneum, Hamburg, Germany. Pp. 149. Cuts, 37. Price, Red Cloth, 75c (3s.) net.

"Professor Schubert expounds with great lucidity, and the translator's work has been excellently done."—*Manchester Guardian.*

"Professor Schubert's *Essays* make delightful reading. They deal, not with the dry side of mathematics, but with the philosophical side of that science on the one hand and its romantic side on the other. They are admirably lucid and simple and answer questions in which every intelligent man is interested."—*Chicago Evening Post.*

Elementary Illustrations of the Differential and Integral Calculus. By *Augustus De Morgan.* New reprint edition. With sub-headings and bibliography of English and foreign works on the Calculus. Red Cloth. Price, $1.00 (4s. 6d.) net.

"It aims not at helping students to cram for examinations, but to give a scientific explanation of the rationale of these branches of mathematics. Like all that De Morgan wrote, it is accurate, clear, and philosophic."—*Literary World.*

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

THE PHYSICAL REVIEW.

A JOURNAL OF EXPERIMENTAL AND THEORETICAL PHYSICS.

CONDUCTED BY

EDWARD L. NICHOLS, ERNEST MERRITT, and FREDERICK BEDELL.

Two volumes of THE PHYSICAL REVIEW are published annually, these volumes beginning in July and January, respectively, and containing at least five numbers each. The price of subscription is two dollars and fifty cents a volume (five dollars a year), or fifty cents a number. Subscriptions should be sent to the publishers, THE MACMILLAN COMPANY, *66 Fifth Ave., New York;* Messrs. MACMILLAN & CO., LTD., *London;* or to Messrs. MAYER & MUELLER, *Berlin.*

Previous to Volume V. (July-December, 1897), THE PHYSICAL REVIEW was published in annual volumes, each containing six bi-monthly numbers, beginning with the July–August number, 1893. These may be obtained from the publishers at the former subscription price, three dollars per volume.

Correspondence relating to contributions should be addressed to the editors, at *Ithaca, New York.*

Manuscript intended for publication in THE PHYSICAL REVIEW must be communicated by the author; when publication in other journals is contemplated, notice to this effect should be given.

The authors of original articles published in the REVIEW will receive one hundred separate copies in covers, for which no charge will be made; additional copies when ordered in advance, may be obtained at cost.

PUBLISHED FOR CORNELL UNIVERSITY.

THE MACMILLAN COMPANY,

NEW YORK.

Treatises on Evolution.

Darwin and After Darwin.

An Exposition of the Darwinian Theory and a Discussion of Post-Darwinian Questions.

By GEORGE JOHN ROMANES, LL. D., F. R. S.

PART I. **The Darwinian Theory.** Pp. xiv. 460. 125 Illustrations. Second Edition. With Portrait of Darwin. Cloth, $2.00.

"The best single volume on the general subject since Darwin's time."—*American Naturalist.*

"The most lucid and masterly presentation of the Darwinian theory yet written."—*Public Opinion.*

"The best modern handbook of evolution."—*The Nation.*

PART II. **Post-Darwinian Questions. Heredity and Utility.** Pp. xii, 344. With Portrait of Romanes. Cloth, $1.50.

"The clearest and simplest book that has appeared in the sphere of the problems it discusses."—*Chicago Dial.*

"Contains the ripest results of deep study of the evolutionary problem. . . . No student of the subject can afford to neglect this last volume of Romanes."—*Bibliotheca Sacra.*

PART III. **Post-Darwinian Questions. Isolation and Physiological Selection.** Pp. 181. With Portrait of Mr. Gulick. Cloth, $1.00.

The three volumes of *Darwin and After Darwin* Supplied to One Order for $4.00 net.

The Primary Factors of Organic Evolution.

By PROFESSOR E. D. COPE.

Cuts, 121. Pages, 550. Tables, Bibliography, Index. Cloth, net, $2.00.

"Will stand as the most concise and complete exposition of the doctrines of the Neo-Lamarckian school hitherto published. A most valuable text-book."—*Science*, N. Y.

"A work of unusual originality. No one can read the book without admiring the intimate knowledge of facts and the great power of generalisation which it discloses."—*Prof. J. McK. Cattell.*

A First Book in Organic Evolution.

An Introduction to the Study of the Development Theory.

By D. KERFOOT SHUTE, M. D.

Professor of Anatomy in the Medical Department of the Columbian University,

Pp. xvi, 285, 39 illustrations—9 in natural colors. Price, cloth, $2.00 (7s. 6d.).

"It is a presentation of the subject for the general reader, which is masterly, clear, and entertaining. A profound subject is thoroughly grasped; a technical subject is made plain; and a complex subject is made simple. I am especially delighted with it as a book for auxiliary reading in the High Schools and Colleges of the country."—*Major J. W. Powell*, Smithsonian Institution, Washington, D. C.

The Principles of Bacteriology.

By Dr. FERDINAND HUEPPE,

Professor of Hygiene in the University of Prague.

Translated from the German and annotated by *Edwin O. Jordan*, Ph. D., Assistant Professor of Bacteriology in the University of Chicago. 28 Cuts. 5 Colored Plates. Pp. 465. Price, $1.75 (9s.).

Invaluable Information for the Physician, Scientist, and General Reader.

"It is the work of a master of the subject, who is not only a scientific man in the sense of being an observer, but also in the sense of having a truly philosophical mind."—*The Lancet*, London.

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

VERLAG VON O. R. REISLAND

IN LEIPZIG

Vierteljahrsschrift für wissenschaftliche Philosophie, gegründet von *Richard Avenarius,* in Verbindung mit *Ernst Mach* und *Alois Riehl,* herausgegeben von PAUL BARTH.

Die *Vierteljahrsschrift für wissenschaftliche Philosophie* tritt mit dem soeben erschienenen ersten Hefte in ihren 24. Jahrgang.

Die *Vierteljahrsschrift für wissenschaftliche Philosophie* erscheint Anfang Februar, Anfang Mai, Mitte Juli und Anfang November.

Preis des Jahrgangs von mindestens 32 Bogen M. 12.—. Einzelhefte M. 4.—. (Hierdurch werden frühere Preisangaben für den Bezug von Einzelheften aufgehoben.)

Anzeigen, im Preis von 20 Pf. die durchlaufende Petitzeile Raum, werden durch die Verlagsbuchhandlung und die Annoncen-Expeditionen angenommen. Beilagen je M. 12.—.

Die Philosophie der Geschichte als Sociologie, von *Dr. Paul Barth,* Privatdocenten an der Universität zu Leipzig. I. Band. 1897. 25 Bogen gr. 8°. M. 8.—.

Dem Verfasser ist Philosophie der Geschichte gleichbedeutend mit Wissenschaft der Geschichte, und diese wiederum, da nur sociale Erscheinungen wahrhaft geschichtliche sind, nicht verschieden von konkreter Sociologie. Alle sociologischen Systeme, meist im Auslande entstanden, sind zugleich geschichtsphilophische Versuche. Er giebt davon, mit Saint-Simon und Comte beginnend, eine kritische Uebersicht, die bisher fehlte, desgleichen eine kritische Zusammenstellung der noch wirksamen einseitigen Geschichtsauffassungen, der ethnologischen, ideologischen, der ökonomischen, des Marxismus und anderer Richtungen und schliesst mit einer vorläufigen Skizze seiner eigenen Ansicht, die auch in der Kritik schon überall hervortritt. Für Philosophen, Geschichtsforscher und Geschichtslehrer, Nationalökonomen, Juristen, praktische und theoretische Politiker dürfte dieses Werk von mannigfachem Interesse sein.

System der Werttheorie. Von *Christian v. Ehrenfels.* I. Band. Allgemeine Werttheorie, Psychologie des Begehrens. 1897. gr. 8°. (XXIII u. 277 Seiten). Preis M. 5.—. II. Band. Grundzüge einer Ethik. 1898. gr. 8°. (VIII u. 270 Seiten.) Preis M. 5.—.

Das Werk bietet in den beiden bis nun erschienenen Bänden eine empirisch-psychologisch begründete allgemeine Theorie des menschlichen Wertschätzens und seiner Entwicklungsgesetze, sowie deren Anwendung speciell auf das ethische Fühlen und Urteilen, und sucht hiermit für streng wissenschaftliche Betrachtung der grossen Entwicklungsprobleme unserer Zeit eine sichere Basis zu schaffen.

AMERICA'S MOST POPULAR RAILROAD

C&A C&A C&A C&A

CHICAGO AND ALTON RAILROAD.

C&A C&A C&A C&A

PERFECT PASSENGER SERVICE BETWEEN

CHICAGO AND KANSAS CITY.
CHICAGO AND ST. LOUIS.
CHICAGO AND PEORIA.
ST. LOUIS AND KANSAS CITY.

Through Pullman service between Chicago and

HOT SPRINGS, Ark., DENVER, Colo.,
TEXAS, FLORIDA, UTAH,
CALIFORNIA AND OREGON.

If you are contemplating a trip, any portion of which can be made over the Chicago & Alton, it will pay you to write to the undersigned for maps, pamphlets, rates, time-tables, etc.

GEO. J. CHARLTON,
General Passenger and Ticket Agent,
CHICAGO, ILLINOIS.

NOTABLE PUBLICATIONS

SKETCHES OF TOKYO LIFE

By JUKICHI INOUYE. Numerous curious illustrations from wood-blocks, doubly-folded sheets, Japanese printing, binding, paper, etc., etc. Pp. 108. Price, 75 cents.

Text in English. Treats of many quaint aspects of Japanese life—the story-tellers' hall, the actor and the stage, the wrestler and the ring, fortune-telling, fires and firemen, jinrikishas, dancing-girls, etc.

A CANDID EXAMINATION OF THEISM

By PHYSICUS (the late G. J. Romanes, M. A., LL. D., F. R. S.). Third Edition. Pp. xi, 197. Cloth, $2.00.

This book was originally written by Romanes in 1878. It is a powerful arraignment of theism, which the young investigator felt obliged to forsake at this time on purely rational grounds, but to which he afterwards reverted when near his death. Romanes' *Thoughts on Religion*, his well-known posthumous work, was written to offset this book. Together they form an interesting study in individual religious development.

THE OPEN COURT PUBLISHING COMPANY
CHICAGO, 324 DEARBORN STREET

Three Publications of Note

A WORK ON PSYCHOLOGY.

THE EVOLUTION OF GENERAL IDEAS. By *Th. Ribot*, Professor in the Collège de France. Authorised translation from the French by Frances A. Welby. Pp., xi, 231. Price, cloth, $1.25 (6s. 6d.).

"All that he writes is lucid and suggestive, and the course of lectures here translated is a characteristic contribution to psychology."—*Nature.*

"An interesting and instructive essay, and well within the capacity of the general reader."—*The Dial.*

A CONTRIBUTION TO SOCIOLOGY.

SCIENCE AND FAITH, OR MAN AS AN ANIMAL AND MAN AS A MEMBER OF SOCIETY. WITH A DISCUSSION OF ANIMAL SOCIETIES. By *Dr. Paul Topinard*, Late General Secretary of the Anthropological Society of Paris, and Sometime Professor in the School of Anthropology. Pp., 361. Price, cloth, gilt top, $1.50 net (6s. 6d. net).

"A most interesting volume."—*Glasgow Herald.*

"Stimulating and suggestive."—*The Scotsman.*

"The book is worth reading, whether we are or are not satisfied with its conclusions."—*Nature.*

"An unusually interesting volume . . . . suggestive in the highest degree . . . . worth the time of any man to read from beginning to end."—*Times-Herald.*

A BOOK ON COMPARATIVE FOLK-LORE.

SOLOMON AND SOLOMONIC LITERATURE. By *Moncure D. Conway.* Pp., viii, 243. Bound in red cloth. Price, $1.50 net (6s.). Portrays the entire evolution of the Solomonic legend in the history of Judaism, Christianity, Hinduism, Buddhism, and Parseeism, and also in ancient and modern folk-lore, taking up, for example, the legend of Solomon's ring, Solomon's seal, etc., etc.

"A thoughtful, interesting, and scholarly study."—*Pittsburgh Times.*

"Full of curious lore."—*Manchester Guardian.*

"Mr. Conway's book on Solomonic literature is precisely such a work as we should expect from the author of *Sacred Anthology.* The logic is everywhere blazed with the poetry of Mr. Conway's nature. There are frequent passages of great eloquence."—*Unity.*

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

TERRESTRIAL MAGNETISM

AND

ATMOSPHERIC ELECTRICITY

An International Quarterly Journal conducted by L. A. BAUER, of the United States Coast and Geodetic Survey, with the assistance of

M. ESCHENHAGEN
Potsdam

TH. MOUREAUX
Parc St. Maur

ADOLF SCHMIDT
Gotha

G. W. LITTLEHALES
Washington

A. SCHUSTER
Manchester

J. ELSTER and H. GEITEL
Wolfenbüttel

J. S. AMES
Baltimore

A. McADIE
San Francisco

Foreign Councillors

A. W. RÜCKER
England

W. VON BEZOLD
Germany

E. MASCART
France

M. RYKATCHEW
Russia

American Councillors

H. S. PRITCHETT
Coast and Geodetic Survey

T. C. MENDENHALL
Worcester

W. B. CLARK
Johns Hopkins University

C. A. SCHOTT
Washington

With the March, 1900, issue, this Journal, devoted exclusively to Terrestrial Magnetism, Atmospheric Electricity, and allied subjects—such as Earth Currents, Auroras, etc.—entered on its fifth volume. The hearty co-operation extended, and the warm encouragement received from all sides, are the surest proof that the inauguration of this Journal has met a keenly felt want. Doubtless never before has such enthusiastic interest been taken in these most elusive subjects. No one who wishes to keep abreast of the latest and best thought in these comparatively unexplored sciences can afford to be without this Journal.

Every issue contains a fine half-tone portrait of some eminent magnetician or electrician.

A volume begins with the March issue and embraces about 200 large octavo pages. Articles appear in the original language of the author when Roman characters can be used.

Domestic Subscription Price: - - - $2.50 a year.
Foreign Subscription Price: - - - $2.75 a year.

Correspondence relating to subscriptions should be addressed to the **JOHNS HOPKINS PRESS, Baltimore, Maryland.** All other correspondence should be addressed to the **EDITOR, Washington, D. C.**

TWO BOOKS BY F. MAX MÜLLER

Three Introductory Lectures on the Science of Thought.

With a correspondence on "Thought Without Words," between F. Max Müller and Francis Galton, the Duke of Argyll, George J. Romanes, and others.
1. The Simplicity of Language; 2. The Identity of Language and Thought; and 3. The Simplicity of Thought. Pp., 128. Cloth, 75 cents.

Prof. F. Max Müller sets forth in this book his view of the Identity of Language and Thought, which is a further development of Ludwig Noiré's theory that "man thinks because he speaks."

"The ripe expression of a life-long labor in the study of the science of language."—*Scotsman*, Edinburgh.

Three Lectures on the Science of Language.

The Oxford University Extension Lectures, with a Supplement, "My Predecessors," an essay on the genesis of "The Science of Thought." Pp., 112. Cloth, 75 cents.

Prof. F. Max Müller points out that the difference between man and animal is due to language, yet there is no mystery in language. Thought is thicker than blood, and the bonds of the same language and the same ideas are stronger than family or race.

"The old fascination and still riper wisdom are offered in these later utterances"—*The Watchman*, Boston.

THE OPEN COURT PUBLISHING COMPANY,
324 DEARBORN ST., CHICAGO. ILL.

STEVENS.

"STEVENS FAVORITE" RIFLE

"Take Down" model, 22-inch barrel, weight 4½ pounds. Carefully bored and tested. For 22, 25, and 32 rimfire cartridges.

No. 17. Plain open sights $6.00
No. 18. Target sights . . . $8.50
No. 19. Lyman sights . . . $9.00

Ask your dealer for the FAVORITE. If he doesn't keep it, we will send it, prepaid, on receipt of price. Send stamp for our complete catalogue.

J. STEVENS ARMS & TOOL CO.
Post-Office Box 1918
CHICOPEE FALLS, MASS.

The Soul of Man

An Investigation of the Facts of Physiological and Experimental Psychology. By DR. PAUL CARUS . . . . . .

Second, Revised Edition.

With an Appendix on the latest researches in Physiology. 182 Diagrams. Pp., 482. Price, Cloth, $1.50 (6s.) net.

The Open Court Pub. Co., Chicag

Chinese Philosophy, Fiction, and Religion

CHINESE PHILOSOPHY: Being an Exposition of the Main Characteristic Features of Chinese Thought. By *Dr. Paul Carus.* Pp., 62. Numerous diagrams and native characters and illustrations. Price, paper, 25 cents (1s. 6d.).

"Valuable and of unquestioned reliability. The delineation of the philosophy that underlies the Chinese civilisation is so ably done in these pages that the reader cannot fail to appreciate the causes which produce Chinese conservatism."—*Toledo Blade.*

CHINESE FICTION. By the *Rev. George T. Candlin.* With illustrations from original Chinese works, specimen facsimile reproductions of texts, and translations of representative passages. Giving a clear and vivid *résumé* of Chinese romantic literature. Pp., 51. Paper, 15 cents (9d.).

"A list of 'fourteen of the most famous Chinese novels' is given. Many long quotations from plays, poems, and stories are given, and the pamphlet is a source of great pleasure. The pictures, too, are charming."—*The Chicago Times Herald.*

LAO-TZE'S TAO-TEH-KING 老子道德經 Chinese-English. With Introduction, Transliteration, and Notes. By *Dr. Paul Carus.* With a photogravure frontispiece of the traditional picture of Lao-Tze, specially drawn for the work by an eminent Japanese artist. Appropriately bound in yellow and blue, with gilt top. Pp., 345. Price, $3.00 (15s.).

Contains: (1) A philosophical, biographical, and historical introduction discussing Lao-Tze's system of metaphysics, its evolution, its relation to the philosophy of the world, Lao-Tze's life, and the literary history of his work; (2) Lao-Tze's *Tao-Teh-King* in the original Chinese; (3) an English translation; (4) the transliteration of the text, where every Chinese word with its English equivalent is given, with references in each case to a Chinese dictionary; (5) Notes and Comments; (6) Index.

"Extraordinarily interesting. Of great moment."—*The Outlook.*

"A truly remarkable achievement."—*The North-China Herald.*

"While of great importance to the serious student, it is usable and interesting to any one who cares at all for the thought and religions of the Orient."—*The New Unity.*

"Much labor has been put into this book. It will be a great addition to the knowledge which English readers have of one of the greatest of religious books and religious leaders."—*The Church Union.*

"It is a convenient volume through which to make such acquaintance with the Chinese language and Chinese thought as an American scholar must consider desirable in view of the present increased intercourse with the Oriental world."—*Reformed Church Review.*

"All that one could do to make the immortal 'Canon on Reason and Virtue' alluring to American readers has certainly been done by the author. The translation is faithful, preserving especially the characteristic terseness and ruggedness of style of the original, the type work is superb, the comments judicious, and the binding a bright yellow with blue and gilt and red trimmings."—*The Cumberland Presbyterian.*

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

GEORG REIMERS VERLAG

BERLIN W. 35, LÜTZOWSTRASSE 107/8.

Kants gesammelte Schriften. Herausgegeben von der *Königlich Preussischen Akademie der Wissenschaften* zu Berlin.

Diese Ausgabe von Kants gesammelten Schriften strebt die vollständige und reinliche Darbietung alles von Kant Erhaltenen an. Sie will dasselbe einerseits dem philosophisch gebildeten Leser zugänglich und benutzbar machen, anderseits der dem Leben und der Lehre Kants gewidmeten Forschung das für sie notwendige Material erschliessen. Die Ausgabe zerfällt in 4 Abteilungen:

I. Werke. II. Briefwechsel. III. Handschriftlicher Nachlass.
IV. Vorlesungen,

und umfasst 22 bis höchstens 25 Bände. Es ist das Erscheinen von 2—3 Bänden alljährlich in freier Folge beabsichtigt; zunächst gelangen Briefwechsel und Werke zur Veröffentlichung. Jede Abteilung, sowie jeder Band der Ausgabe wird einzeln käuflich sein, doch bitte ich in beiderseitigem Interesse, Kontinuationsliste anzulegen.

Als erster Band erschien vor Kurzem:

BAND X., **Briefwechsel, Band 1.** 1747 bis 1788.
Preis, broschirt, 10 Mark; in Halbfranz gebunden 12 Mark.

Als zweiter Band der ganzen Reihe erschien soeben:

BAND XI., **Briefwechsel, Band 2.** 1789 bis 1794.
Preis, broschirt, 10 Mark; in Halbfranz gebunden 12 Mark.

Prospect über das Gesammtwerk gratis und franco.

Kants Kritik der reinen Vernunft. Herausgegeben von *Benno Erdmann.* Fünfte durchgesehene Auflage. Preis, broschirt, 4 M., in Halbfranz gebunden 5 M.

Beiträge zur Geschichte und Revision des Textes von Kants Kritik der reinen Vernunft. Anhang zur fünften Auflage der Ausgabe von *Benno Erdmann.* Preis 2 M.

Geschichte der Königlich Preussischen Akademie der Wissenschaften zu Berlin. Im Auftrage der Akademie bearbeitet von *Adolf Harnack.* Drei Bände. 150 Bogen Lexikon-Oktav mit 8 Porträts. Preis 60 M.

A Psychology for Beginners

AN OUTLINE SKETCH.

By HIRAM M. STANLEY,

Member of the American Psychological Association, author of the "Evolutionary Psychology of Feeling" and "Essays on Literary Art." Pages, 44. Boards. Price, 40 cents (2s.).

A Terse Statement of Psychological Facts

Designed to give to beginners a direct insight into the subject and familiarity with its methods. The student is told as little as possible, but is allowed to learn for himself by simple observation and experiment.

"A capital little primer . . . . printed in bold type . . . . with twenty-six blank pages of stout paper for the scholar's notes and exercises . . . . Treats the most elementary principles of psychology . . . . in the semi-conversational style that suggests the practised teacher." *Literary World*, London.

"Invaluable to teachers."—*Canadian Teacher.*

History of Modern Philosophy in France

BY

LUCIEN LÉVY-BRUHL

Maître de Conférence in the Sorbonne. Professor in the École Libre des Sciences Politiques.

With twenty-three photogravure and half-tone portraits of French philosophers, from rare and classical sources. Also a Bibliography of Modern French Philosophy. Handsomely bound, printed on antique paper, with wide margins. Pp., 500. 8vo. Price, $3.00 (12s.).

"A more attractive book than this it has seldom been our pleasure to read. Paper, type, binding, and especially the portraits, contribute to make a sumptuous volume. But its mechanical perfection is the smallest element of its value. Any one who expects to find this either a dry or an inexact or an incomplete book will be most agreeably disappointed. To every one of competent philosophical knowledge or curiosity, it will prove both instructive and entertaining."—*The Methodist Review.*

"The portraits are admirably reproduced."—*Literature.*

"It is a remarkably handsome volume. . . . The illustrations are truly masterpieces of art."—*Chicago Israelite.*

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co.

Verlag von Wilhelm Engelmann in Leipzig

Neuigkeiten des Jahres 1900.

WUNDT, Wilhelm, Professor in Leipzig.

VOELKERPSYCHOLOGIE. Eine Untersuchung der Entwicklungsgesetze von Sprache, Mythus und Sitte.

Erster Band: Die Sprache, erster Teil. Mit 40 Textfiguren, gr. 8°, 40 Bogen. Preis, geheftet, M. 14, in Halbfranzband, M. 17.

Erster Band: Die Sprache, zweiter Teil. Mit 2 Textfiguren, gr. 8°, 40 Bogen. Preis, geheftet, M. 15, in Halbfranzband, M. 18.

KROELL, H., Dr. med. in Strassburg i. E.

DER AUFBAU DER MENSCHLICHEN SEELE. Eine psychologische Skizze. Mit 14 Textfiguren, gr. 8°, 25 Bogen. Preis, geheftet, M. 5, in Leinwandband, M. 6.

MANNO, Richard, Oberlehrer Dr. in Dortmund.

HEINRICH HERTZ—FÜR DIE WILLENSFREIHEIT? Eine kritische Studie über Mechanismus und Willensfreiheit, gr. 8°, 5 Bogen. Preis M. 1.50.

RIEHL, Alois, Professor in Halle a/S.

GIORDANO BRUNO. Zur Erinnerung an den 17. Februar 1600. Zweite, neu bearbeitete Auflage, gr. 8°, 4 Bogen. Preis M. 1.20.

SACK, J., in Heidelberg.

MONISTISCHE GOTTES- UND WELTANSCHAUUNG. Versuch einer idealistischen Begründung des Monismus auf dem Boden der Wirklichkeit, gr. 8°, 18 Bogen. Preis M. 5.

SCHOELER, Dr. Heinrich, in Leipzig.

PROBLEME. Kritische Studien über den Monismus, gr. 8°, 7 Bogen. Preis M. 2.

SCHWARZ, Hermann, Privatdocent in Halle.

PSYCHOLOGIE DES WILLENS. Eine Grundlegung der Ethik, gr. 8°, 25 Bogen. Preis M. 6.

STÖRRING, Gustav, Dr. phil. et med. in Leipzig.

VORLESUNGEN ÜBER PSYCHOPATHOLOGIE in ihrer Bedeutung für die *normale Psychologie*. Mit Einschluss der psychologischen Grundlagen der Erkenntnisstheorie. Mit 8 Textfiguren, gr. 8°, 30 Bogen. Preis M. 9, in Leinwandband M. 10.

Philosophical and Psychological Portrait Series.

Suitable for framing and hanging in public and private libraries, laboratories, seminaries, recitation and lecture rooms.

The portraits, which are 11 x 14 in., have been taken *from the best sources*, and are high-grade photogravures. The series is now complete.

KANT. (*Original 11×14 in.*)

Philosophical:

PYTHAGORAS	SPINOZA	HEGEL
SOCRATES	LOCKE	SCHLEIERMACHER
PLATO	BERKELEY	SCHOPENHAUER
ARISTOTLE	HUME	HERBART
EPICTETUS	MONTESQUIEU	FEUERBACH
THOMAS AQUINAS	VOLTAIRE	LOTZE
ST. AUGUSTINE	D'ALEMBERT	REID
AVERRHOES	CONDILLAC	DUGALD STEWART
DUNS SCOTUS	DIDEROT	SIR W. HAMILTON
GIORDANO BRUNO	ROUSSEAU	COUSIN
BACON	LEIBNITZ	COMTE
HOBBES	WOLFF	ROSMINI
DESCARTES	KANT	J. STUART MILL
MALEBRANCHE	FICHTE	HERBERT SPENCER
SCHELLING		

Psychological

CABANIS	MACH	ROMANES
MAINE DE BIRAN	STUMPF	PAUL JANET
BENEKE	EXNER	RIBOT
E. H. WEBER	STEINTHAL	TAINE
FECHNER	BAIN	FOUILLEE
HELMHOLTZ	SULLY	BINET
WUNDT	WARD	G. STANLEYHALL
HERING	C. L. MORGAN	G. T. LADD
AUBERT		

To Subscribers:

TERMS: For *the whole series* (68 portraits) on *regular paper*, *$7.50* (*35s.*); on *heavy Imperial Japanese paper*, *$11* (*50s.*).

The Philosophical Series, 43 portraits, Imperial Japanese paper, $8.75 (40s.); the same on the best plate paper, $6.25 (30s.). The Psychological Series, 25 portraits, on Imperial Japanese paper, $5.00 (24s.); the same on the best plate paper, $3.75 (18s.). (The higher prices in parentheses refer to foreign countries. Carriage prepaid.) Single portraits on regular paper, 25 cents.

For subscribers who may prefer not to frame the portraits, *a neat portfolio* will be provided at a cost of $1.00 additional.

HOBBES. (*Original 11×14 in.*)

"I have received the first instalment of the series of portraits of philosophers, and am very much pleased with them."—*Prof. David G. Ritchie*, St. Andrews, Scotland.

"I congratulate you on the magnificent character of the portraits, and I feel proud to have such adornments for my lecture room."—*J. J. McNulty*, Professor of Philosophy in the College of the City of New York.

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co. (Ltd.).

HOLIDAY GIFT BOOKS

Eros and Psyche.
Retold after Apuleius.

By Dr. Paul Carus. Half-tone reproductions, with ornamental borders, of the famous illustrations of Paul Thumann. Printed from pica type on Strathmore deckle-edge paper, elegantly bound, and with classic cover design by E. Biedermann. One of the quaintest stories of the world's folklore. A handsome present. Pages, xv, 108. Price, $1.50 (6s.).

Scenes from the Life of Buddha.

Reproduced in colors from the paintings of Keichyu Yamada, Professor in the Imperial Art Institute, Tokyo. With a handsome cover-stamp especially designed for the volume. The illustrations, which are inimitable in their delicacy, are eight in number and occupy each a separate leaf, with the descriptions and references intervening. Unique and original. Price, $2.50 (15s.).

Travels in Tartary, Thibet and China.

By M. Huc. New Edition. From the French. Two Vols., 100 Illustrations, 688 Pages, Handsomely Bound in Oriental Style, $2.00 (10s.). Popular Edition, 1 Vol., Cloth, $1.25 (5s.). A Truly Fascinating Work. One of the Most Popular Books of All Times. "The work made a profound sensation."—*The Watchman.* "The book is a classic, and has taken its place as such, and few classics are so interesting. These reprints ought to have a large sale. Few books will have more readers than the missionary adventures of Abbé Huc and his no less daring companion."—*The Catholic News.*

Karma:
A Story of Early Buddhism.

By Dr. Paul Carus. Third Oriental Art Edition. Flexible crêpe paper. Tied in silk. "Simply a gem."—*Presbyterian and Reformed Review.* "A thing of rare beauty."—*Boston Daily Advertiser.* "The most typographically unique publication of the season."—*Journal and Press.* "The most fascinating book of the year."—*Chicago Daily News.* A unique and appropriate gift. Price, 75 cents.

The Lost Manuscript.

A Novel. By Gustav Freytag. Authorised translation from the sixteenth German edition. The author writes as a motto for the American edition: "A noble human life does not end on earth with death. It continues in the minds and the deeds of friends, as well as in the thought and activity of the nation." *Edition de luxe*, two volumes, $4.00. In one volume, simpler edition, cloth, $1.00.

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.
LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

VALUABLE NEW BOOKS

Whence and Whither? An Inquiry Into the Nature of the Soul, Its Origin and Destiny. By DR. PAUL CARUS. Pages, viii, 188. Price, cloth, 75 cents (3s. 6d.).

Treats of the nature of the ego; human personality; spiritual heredity; human immortality; etc., from the standpoint of modern psychology and biology.

The Gospel According to Darwin. By DR. WOODS HUTCHINSON. Pages, xii, 241. Price, paper, 50 cents (2s. 6d.). Cloth, $1.50 (6s.).

"Is one of the most thoughtful and stimulating of recent publications . . . frank, manly, and straightforward . . . much food for profitable meditation in its pages."—*Chicago Chronicle.*

Açvaghosha's Discourse on the Awakening of Faith in the Mahâyâna. Translated for the first time from the Chinese version, by TEITARO SUZUKI. Pages, 176. Price, cloth, $1.25 (5s.).

This is one of the lost sources of Buddhism. It has never been found in its original Sanskrit, but has been known to exist in two Chinese translations, the contents of which have never been made accessible to the Western world. This famous book has now been translated from the Chinese for the first time, by Mr. Teitaro Suzuki, a Japanese Buddhist scholar, and has been published with introduction, comments, glossary, and index.

An Enquiry Concerning Human Understanding. By DAVID HUME. Reprinted from the edition of 1777, with Hume's autobiography and a letter from Adam Smith, usually prefixed to the *History of England.* Frontispiece, portrait of Hume by Ramsay. Pages, 201. Price, paper, 25 cents.

World's Congress Addresses. Delivered by the President, the HON. CHARLES CARROLL BONNEY, LL.D., to the World's Parliament of Religions and the Religious Denominational Congresses of 1893. Printed as a Memorial of the Significant Events of the Columbian Year. Pp., vi, 88. Price, paper, 15c (9d.).

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

Grand Clubbing Offers

Periodical Literature

Offer of $9.50 worth of Leading Monthlies for $4.75.

REVIEW OF REVIEWS	$2.50
Review of Reviews must go to a New Subscriber. All others may be new or renewal.	
McCLURE'S MAGAZINE	$1.00
CURRENT LITERATURE	$3.00
THE OPEN COURT	$1.00
SUCCESS	$1.00
COSMOPOLITAN	$1.00
Regular Price	$9.50

All the Above Magazines to One or Separate Addresses for Twelve Months for Only **$4.75**

Offer of $7.00 worth of Leading Monthlies for $4.00.

COSMOPOLITAN	$1.00
McCLURE'S	$1.00
THE OPEN COURT	$1.00
SUCCESS	$1.00
CURRENT LITERATURE (or Review of Reviews, new Subscription)	$3.00
Regular Price	$7.00

All the Above Magazines to One or Separate Addresses for Twelve Months for Only **$4.00**

Offer of $6.00 worth of Leading Monthlies for $3.75.

CURRENT LITERATURE (or Review of Reviews, new Subscription)	$3.00
McCLURE'S MAGAZINE	$1.00
THE OPEN COURT	$1.00
ANY $1.00 MAGAZINE	$1.00
Regular Price	$6.00

All the Above Magazines to One or Separate Addresses for Twelve Months for Only **$3.75**

The Open Court Publishing Company

324 Dearborn St., Chicago, Ill.

XI. No. 3. APRIL, 1901.

THE MONIST

A QUARTERLY MAGAZINE

Devoted to the Philosophy of Science

Editor: DR. PAUL CARUS,
Assistant Editor: T. J. MCCORMACK.
Associates: E. C. HEGELER, MARY CARUS.

CONTENTS:

PAGE

ON PHYSIOLOGICAL, AS DISTINGUISHED FROM GEOMETRICAL, SPACE.
DR. ERNST MACH. - - - - - - - - - - 321

BRAIN ANATOMY AND PSYCHOLOGY.
PROF. L. EDINGER - - - - - - - - - 339

THE RESURRECTION OF CHRIST.
THE REV. WILLIAM WEBER - - - - - - - - 361

THE FAIRY-TALE ELEMENT IN THE BIBLE. Babylonian Cosmogony.—The Cuneiform Tablets of the Marduk Myth.—Yahveh's Fight with the Dragon.—The Two Hebrew Creation Stories.
EDITOR - - - - - - - - - - - 405

LITERARY CORRESPONDENCE.
France.
LUCIEN ARRÉAT - - - - - - - - - - 488

DISCUSSIONS.
Prof. J. G. Frazer's *Golden Bough*.
EDITOR - - - - - - - - - - - 457

THE INTERNATIONAL PSYCHOLOGICAL INSTITUTE AT PARIS.
S. YOURIÉVITCH - - - - - - - - - - 464

BOOK REVIEWS. [For particulars see inside title-page.] - - - - - - 468

CHICAGO:

THE OPEN COURT PUBLISHING CO.

Price, 50 cts.; Yearly, $2.00.

LONDON: KEGAN PAUL, TRENCH, TRÜBNER & COMPANY, LIMITED.

In England and U. P. U., half a crown; Yearly, 9s 6d.

Copyrighted, 1901, by the Open Court Publishing Co. Entered at the Chicago Post Office as Second-Class Matter

Cheap Editions of Standard Works

in

Philosophy, Science, and Religion

THE RELIGION OF SCIENCE LIBRARY

Yearly, $1.50

Miscellaneous

No. 37. Psychology for Beginners. HIRAM M. STANLEY.....20c (1s.).
" 21. Popular Scientific Lectures. ERNST MACH.....50c (2s. 6d.).
" 41. The Soul of Man. PAUL CARUS.....75c (3s. 6d.).
" 6. The Psychic Life of Micro-Organisms. A. BINET.25c (1s. 6d.).
" 8. On Double Consciousness. ALFRED BINET.....15c (9d.).
" 11. The Origin of Language, and The Logos Theory. LUDWIG NOIRÉ.....15c (9d.).

Philosophical Books

No. 9. Fundamental Problems. PAUL CARUS.....50c (2s. 6d.).
" 15. Primer of Philosophy. PAUL CARUS.....25c (1s. 6d.).
" 26. The Philosophy of Ancient India. R. GARBE.....25c (1s. 6d.).
" 38. Discourse on Method. RENÉ DESCARTES.....25c (1s. 6d.).
" 45. An Enquiry Concerning Human Understanding. DAVID HUME.....25c (1s. 6d.).
" 46. An Enquiry Concerning the Principles of Morals. DAVID HUME.....25c (1s. 6d.).

Neat Paper Covers. Stitched Backs

The Open Court Publishing Company

324 DEARBORN STREET, CHICAGO

London: KEGAN PAUL, TRENCH, TRÜBNER & CO., Ltd.

VOL. XI. No. 3. APRIL, 1901.

THE MONIST

A QUARTERLY MAGAZINE

Devoted to the Philosophy of Science

Editor: DR. PAUL CARUS.
Assistant Editor: T. J. MCCORMACK.
Associates: E. C. HEGELER. MARY CARUS.

CONTENTS:

PAGE

ON PHYSIOLOGICAL, AS DISTINGUISHED FROM GEOMETRICAL SPACE.
DR. ERNST MACH - - - - - - - - - - - 321

BRAIN ANATOMY AND PSYCHOLOGY.
PROF. L. EDINGER - - - - - - - - - - 339

THE RESURRECTION OF CHRIST.
THE REV. WILLIAM WEBER - - - - - - - 361

THE FAIRY-TALE ELEMENT IN THE BIBLE. Babylonian Cosmogony.—The Cuneiform Tablets of the Marduk Myth.—Yahveh's Fight with the Dragon.—The Two Hebrew Creation Stories.
EDITOR - - - - - - - - - - - - - - 405

LITERARY CORRESPONDENCE.
France.
LUCIEN ARRÉAT - - - - - - - - - - - 448

DISCUSSIONS.
Prof. J. G. Frazer's *Golden Bough*.
EDITOR - - - - - - - - - - - - - - 457

THE INTERNATIONAL PSYCHOLOGICAL INSTITUTE AT PARIS.
S. YOURIÉVITCH - - - - - - - - - - - 464

BOOK REVIEWS - - - - - - - - - - - - - - 468

Genesis. By *A. Dillmann*, p. 468.—Genesis. Von *Hermann Gunkel*, p. 468.—The Spiritual Life. By *G. A. Coe*, p. 470.—Kunstwissenschaftliche Studien. Von *Ernst Grosse*, p. 472.—Science and Faith. By *Paul Topinard*, p. 474.—The Biography of a Baby. By *M. W. Shinn*, p. 476.—The Upanishads with Sankara's Commentary. By Indian scholars, p. 477.—Le Forme di Governo e la loro Evoluzione Popolare. By *G. Pagano*, p. 478.—Philosophie générale et métaphysique. Addresses delivered at the International Congress of Philosophy, p. 479.—Die mikronesischen Colonien. Von *A. Bastian*, p. 479.—Syllabus of Psychology. By *J. H. Hyslop*, p. 480.—Syllabus of an Introduction to Philosophy. By *W. T. Marvin*, p. 480.

CHICAGO:
THE OPEN COURT PUBLISHING COMPANY.
1901.

emerging from the tunnel, are exceptionally distinct cases only of the fact of daily experience that objects in visual space cannot be moved about without suffering expansion and contraction,—so that the space of vision resembles in this respect more the space of the metageometricians than it does the space of Euclid.

Even familiar objects *at rest* exhibit the same peculiarities. A long cylindrical glass vessel tipped over the face, a walking-stick laid endwise against one of the eyebrows, appear strikingly conical in shape. The space of our vision is not only bounded, but at times it appears to have even very narrow boundaries. It has been shown by an experiment of Plateau that an after-image no longer suffers appreciable diminution when projected upon a surface the distance of which from the eye exceeds thirty meters. All ingenuous people, depending on direct perception, like the astronomers of antiquity, see the heavens approximately as a sphere, finite in extent. In fact, the oblateness of the celestial vault vertically,—a phenomenon with which even Ptolemy was acquainted, and which Euler has discussed in modern times,—is proof that our visual space is of unequal extent even in different directions. Zoth appears to have found a physiological explanation of this fact, closely related to the conjecture of Ptolemy. The narrow boundaries of space follow, indeed, directly from the possibility of panoramic painting.

Visual space has but few properties in common with geometric space. Both spaces are threefold manifoldnesses. To every point of geometric space, A, B, C, D, corresponds a point A', B', C', D', of visual space. If C lies between B and D, then also will C lie between B' and D'. It is also permissible to say that to a continuous motion of a point in geometric space there corresponds a continuous motion of a co-ordinate point in visual space. I have remarked elsewhere that this continuity, which is merely a convenient fiction, need not in the case of either space be an actual continuity. As every system of sensations, so also the system of space-sensations, is finite,—a fact which cannot astonish us. An endless series of sensational qualities or intensities is psychologically inconceivable. The other properties of visual space also are adapted

to biological conditions. The biological needs would not be satisfied with the pure relations of geometric space. "Rightness," "leftness," "aboveness," "belowness," "nearness," and "farness," must be distinguished by a sensational quality. The locality of an object; and not merely its relation to other localities, must be known, if an animal is to profit by such knowledge. It is also advantageous that the sensational indices of visual objects which are near by and consequently more important biologically, are sharply graduated; whereas, economy is practiced with the limited stock of indices at hand in the case of remote and less important objects.

We shall now develop a simple general consideration, which is again essentially of a teleological nature. Let several distinct spots on the skin of a frog be successively irritated by drops of acid; the frog will respond to each of the several irritations with a specific movement of defense corresponding to the spot irritated. Qualitatively like stimuli affecting different elementary organs and entering by different paths give rise to processes which are propagated back to the environment of the animal again by different organs along different paths. As self-observation shows, we recognise the sameness of the irritational quality of a burn at whatever sensitive spot it may occur, but distinguish the spots irritated; and our conscious or unconscious movement for protection is executed accordingly. The same holds true for itching, tickling, pressure on the skin, etc. We may be permitted to assume, accordingly, that in all these cases there is resident in the sensation, which qualitatively is the same, some differentiating constituent which is due to the specific character of the elementary organ or spot irritated, or, as Hering would say, to the locality of the attention. Conditions resembling those which hold for the skin doubtless also obtain for the extended surface of any sensory organ; although, as in the case of the retina, the facts are here somewhat more complicated. Instead of movements for protection or flight may appear also, conformably with the quality of the irritation, movements[1] of

[1] I accept, it will be seen, in a somewhat modified and extended form, the opinion advanced by Wlassak. Cf. his beautiful report, "Ueber die statischen Functionen des Ohrlabyrinths," *Vierteljahrssch. f. w. Philos*, XVII. 1 s. 29.

attack, the form of which is also determined by the spot irritated. The snapping reflex of the frog which is produced optically, and the picking of young chicks, may serve as examples. *The mutual biological adaptation of large groups of connected elementary organs is thus very distinctly expressed in the perception of space.*

This natural and ingenuous view leads directly to the theory advanced by Prof. William James, according to which *every* sensation is in part spatial in character; a distinct locality, determined by the element irritated, being its invariable accompaniment. Since generally a plurality of elements enters into play, *voluminousness* would also have to be ascribed to sensations. In support of his hypothesis James frequently refers to Hering. This conception is, in fact, almost universally accepted for optical, tactile, and organic sensations. Many years ago, I myself characterised the relationship of tones of different pitch as spatial, or rather as analogous to spatial; and I believe that the casual remark of Hering, that deep tones occupy a greater volume than high tones, is quite apposite.[1] The highest audible notes of Koenig's rods give as a fact the impression of a needle-thrust, while deep tones appear to fill the entire head. The possibility of localising sources of sound, although not absolute, also points to a relation between sensations of sound and space. In the first place, we clearly distinguish, in the case of high tones at least, whether the right or the left ear is more strongly affected. And although the parallel between binocular vision and binaural audition, which Steinhauser[2] assumes, may possibly not extend very far, there exists, nevertheless, a certain analogy; and the localising of sources of sound is effected preferentially by the agency of high tones[3] (of small volume and more sharply distinguished locality).

---

[1] I am unable to give the reference for this remark definitely; it was therefore doubtless made to me orally. Germs of a like view, as well as suggestions toward the modern physical theories of audition, are to be found even in Johannes Müller (*Zur vergleich. Physiolog. des Gesichtssinnes*, Leipsic, 1826, p. 455 et seq.).

[2] Steinhauser, *Ueber binaureales Hören.* Vienna. 1877.

[3] *Ueber die Funktion der Ohrmuschel.* Tröltsch, *Archiv für Ohrenheilkunde*, N. F., Band 3, S. 72.

The physiological spaces of different senses embrace in general physical domains which are only in part coincident. Almost the entire surface of the skin is accessible to the sense of touch, but only a part of it is visible. On the other hand, the sense of sight in general extends very much farther physically. We cannot see our internal organs, which, like the elementary organs of sense, we feel as existing in space and invest with locality only when their equilibrium is disturbed; and these same organs fall only partly within range of the sense of touch. Similarly, the determination of position in space by means of the ear is far more uncertain and is restricted to a much more limited field than that by the eye. Yet, loosely connected as the different space-sensations of the different senses may originally have been, they have still entered into connexion through association, and that system which has the greater practical importance at the time being is prepared to take the place of the other (James). The space-sensations of the different senses are undoubtedly related, but they are certainly not identical. It is of little consequence whether all these sensations be termed space-sensations or whether *one* species only be invested with this name and the others be conceived as analogues of them.

If sensation generally, inclusive of sensation of space, be conceived not as an isolated phenomenon, but in its biological function, in its biological relationship, the entire subject will be rendered more intelligible. As soon as an organ or system of organs is irritated, the appropriate movements are induced as reflexes. If in complicated conditions of life these movements be found to be evoked spontaneously in response to a part only of the original irritation, in response to some slight impulse, in response to a memory, then we are obliged to assume that traces corresponding to the character of the irritation as well as the irritated organs must be left behind in the memory. It is intelligible thus that every sensory field has its own memory and its own spatial order.

The physiological spaces are multiple manifoldnesses of sensation. The wealth of the manifoldness must answer to the wealth of the elements irritated. The nearer elements of the same kind lie together, the more nearly they are akin embryologically, and the more

nearly alike are the space-sensations which they produce. If *A* and *B* be two elementary organs, it is permissible to assume that the space-sensation produced by each of them is composed of two constituent parts, *a* and *b*, of which the one, *a*, diminishes the more, and the other, *b*, increases the more, the farther *B* is removed from *A*, or, the more the ontogenetic relationship of *B* to *A* decreases. The elements situated in the series *AB* present a continuously graduated onefold manifoldness of sensation. The multiplicity of the spatial manifoldness must be determined in each case by a special investigation; for the skin, which is a closed surface, a twofold manifoldness would suffice, although a multiple manifoldness is not excluded, and is, by reason of the varying importance of different parts of the skin, even very probable.

It may be said that sensible space consists of a *system of feelings evoked by the sensory organs*, which, while they would not exist without the sense-impressions arising from these organs, yet when aroused by the latter *constitute a sort of scale in which our sense-impressions are registered.* Although every single feeling due to a sensory organ (feeling of space) is registered according to its specific character between those next related to it, a plurality of excited organs is nevertheless very advantageous for distinctness of localisation, for the reason that the contrasts between the feelings of locality are enlivened in this way. Visual space, therefore, which ordinarily is well filled with objects, also affords the best means of localisation. Localisation becomes at once uncertain and fluctuant for a single bright spot on a dark background. (S. Exner.)

It may be assumed that the system of space-sensations is in the main very similar, though unequally developed, in all animals which, like man, have three cardinal directions distinctly marked on their bodies. Above and below, the bodies of such animals are unlike, as they are also in front and behind and to the right and to the left. To the right and the left, these animals are apparently alike, but their geometrical and mechanical symmetry, which subserves purposes of rapid locomotion, should not deceive us with regard to their anatomical and physiological asymmetry. Though the latter may appear slight, it is yet distinctly marked in the fact

that species very closely allied to symmetrical animals sometimes assume strikingly unsymmetrical forms. The asymmetry of the plaice (flatfish) is a familiar instance, while the externally symmetric form of the slug forms an instructive contrast to the unsymmetric shapes of some of its nearer relatives. This trinity of conspicuously marked cardinal directions might indeed be regarded as the physiological basis for our familiarity with the three dimensions of geometric space.

Visual space forms the clearest, precisest, and broadest system of space-sensations, but biologically tactual space is perhaps more important. Irritations of the skin are spatially registered from the very outset; they disengage the corresponding protective movement; the disengaged movement then again induces sensations in the extended or contracted skin, in the joints, in the muscles, etc., which are associated with sensations of space. The first localisations in tactual space are presumably effected on the body itself, the palm of the hand being carried, for example, over the surface of the thigh, which also is sensitive to impressions of space. In this manner, experiences in the field of tactual space are gathered. But the attempt which is frequently made of deriving tactual space psychologically from such experiences, by aid of the concept of time and on the assumption of spaceless sensations, is an altogether hopeless undertaking.

It is my opinion that the space of touch and the space of vision may be conceived after quite the same manner. This can be done, so far as I can infer from what has already been attempted in this direction, only by transferring Hering's view of visual space to tactual space. This also accords best with general biological considerations. A newly-hatched chick notices a small object, looks toward it, and immediately pecks at it. A certain area in the central organ is excited by the irritation, and the looking movement of the muscles of the eye, as well as the picking movements of the head and neck, are forthwith automatically disengaged thereby. The excitation of the above-mentioned area of the central organ, which on the one hand is determined by the geometric locality of the physical irritation, is on the other hand the basis of the space-

sensation. The disengaged muscular movements themselves become a source of sensations in greatly varying degree. Whereas the sensations attending the movements of the eyes, in the case of man at least, usually disappear almost altogether, the movements of the muscles made in the performance of work leave behind them a powerful impression. The behavior of the chick is quite similar to that of an infant which spies a shining object and snatches at it. It will scarcely be doubted that in addition to optical irritations other irritations, acoustic, thermal, and gustatory in character, are also able to evoke movements of prehension or defense, especially so in the case of blind people, and that to the same movements, the same irritated parts of the central organ, and therefore also the same sensations of space, will correspond. The irritations affecting blind people are, as a general thing, merely limited to a more restricted sphere and less sharply determined as to locality. The system of spatial sensations of such people may at first be more meagre and more obscure; consider, for instance, the situation of a blind person endeavoring to protect himself from a wasp buzzing around his head. Yet education can do very much towards perfecting the spatial sense of blind people, as the achievements of the blind geometer Saunderson clearly show. Spatial orientation must notwithstanding have been somewhat difficult for him, as is proved by the construction of his table, which was divided in the simplest manner into quadratic spaces. He was wont to insert pins into the corners and centers of these squares and to connect their heads by threads. His highly original work, however, must by reason of its very simplicity have been particularly easy for beginners to understand; thus he demonstrated the proposition that the volume of a pyramid is equal to one third of the volume of a prism of the same base and height, by dividing a cube into six congruent pyramids, each having a side of the cube for its base and its vertex in the center of the cube.[1]

Tactual space exhibits the same peculiarities of anisotropy and of dissimilarity in the three cardinal directions as visual space,

[1] Diderot, *Lettre sur les aveugles.*

and differs in these peculiarities also from the geometric space of Euclid. On the other hand, optical and tactual space-sensations are at many points in accord. If I stroke with my hand a stationary surface having upon it distinct tangible objects, I shall feel these objects as at rest, just as I should feel visual objects to be when voluntarily causing my eyes to pass over them, although the images themselves actually move across the retina. On the other hand, a moving object appears in motion to the seeing or touching organ either when the latter is at rest or when it is following the object. Physiological symmetry and similarity find the same expression in the two domains, as has been elsewhere shown in detail;[1] but, however intimately allied they may be, the two systems of space-sensations cannot nevertheless be identical. When an object excites me in one case to look at it and in another to grasp it, certainly the portions of the central organ which are affected must be in part different, no matter how nearly contiguous they may be. If both results take place, the domain is naturally larger. For biological reasons, we may expect that the two systems readily coalesce by association, and readily adapt themselves to one another, as is actually the case.

But the province of the phenomena with which we are concerned is not yet exhausted. A chick can look at an object, pick at it, or even be determined by the stimulus presented to run to it, turn towards or around to it. A child that is creeping toward an objective point, and then some day gets up and runs with several steps toward it, acts likewise. We are under the necessity of conceiving these cases, which pass continuously into one another, from some similar point of view. There must be certain parts of the brain which, having been irritated in comparatively simple manner, on the one hand give rise to feelings of space and on the other hand, by their organisation, produce automatic movements which at times may be quite complicated. The stimulus to extensive locomotion and change of orientation not only proceeds from optical excitations, but may also be induced, even in the case of blind

[1] *Analysis of the Sensations*, Eng. trans., p. 50 et seq.

animals, by chemical, thermal, acoustic, and galvanic excitations.[1] In point of fact, we also observe extensive movements of locomotion and orientation in animals that are constitutionally blind (blind worms), as well as in such as are blind by retrogression (moles and cave animals). We may accordingly conceive sensations of space as determined in a perfectly analogous manner both in animals with and in animals without sight.

A person watching a millipede creeping uniformly along is irresistibly impressed with the idea that there proceeds from some organ of the animal a uniform stream of stimulation which is answered by the motor organs of its successive segments with rhythmic automatic movements. Owing to the difference of phase of the hind as compared with the fore segments, there is produced a longitudinal wave which we see propagated through the legs of the animal with mechanical regularity. Analogous phenomena cannot be wanting in the higher animals, and as a matter of fact do exist there. We have an analogous case during active or passive rotation about the vertical axis, when the irritation induced in the labyrinth disengages the well-known nystagmic movements of the eyes. The organism adapts itself so perfectly to certain regular alterations of excitations that on the cessation of these alterations under certain circumstances negative after-images are produced. I have but to recall to the reader's mind the experiment of Plateau and Oppel with the expanding spiral, which when brought to rest appears to shrink, and the corresponding results which Dvorák produced by alterations of the intensity of light. Phenomena of this kind led me long ago to the assumption that there corresponded to an alteration of the stimulus u with the time t, to a rate of alteration, $\frac{du}{dt}$, a special process which under certain circumstances might be felt and which is of course associated with some definite organ. Thus, rate of motion, within the limits within which the perceiving organ can adapt itself, is felt directly; it is therefore not only an abstract idea, as is the speed of the hand of a clock or of a projectile, but it is also a specific sensation, and furnished the

[1] Loeb, *Vergleichende Gehirnphysiologie*, Leipzig, 1899, page 108 et seq.

original impulse to the formation of the idea. Thus, a person feels in the case of a line not only a succession of points varying in position, but also the direction and the curvature of the line. If the intensity of illumination of a surface is given by $u=f(x, y)$, then not only u but also $\frac{du}{dx}$, $\frac{du}{dy}$, and $\frac{d^2u}{dx^2}$, $\frac{d^2u}{dy^2}$, find their expression in sensation,—a circumstance which points to a complicated relationship between the elementary organs.

If there actually exists, then, as in the millipede, an organ which on simple irritation disengages the complicated movements belonging to a definite kind of locomotion, it will be permissible to regard this simple irritation, provided it is conscious, as *the will* or *the attention* appurtenant to this locomotion and carrying the latter spontaneously with it. At the same time, it will be recognised as a need of the organism that the effect of the locomotion should be felt in a correspondingly simple manner.

For detailed illustration, we will revert once more to the consideration of visual space. The perception of space proceeds from a biological need, and will be best understood in its various details from this point of view. The greater distinctness and the greater nicety of discrimination exercised at a single specific spot of the retina of vertebrate animals is an economic device. By it, the possibility of moving the eye in response to changes of attention is rendered necessary, but at the same time the disturbing effects of *willed* movements of the eyes on the sensations of space induced by objects at rest have to be excluded. Perception of the movement of an image across the retina when the retina is at rest, perception of the movement of an object when the eye is at rest, is a biological necessity. As for the perception of objects at rest in the unfrequent contingency of a movement of the eye due to some occurrence extrinsic to consciousness (external mechanical pressure, or twitching of the muscles), this was unnecessary for the organism. The foregoing requirements are to be harmonised only on the assumption that the displacement of the image on the retina of the eye in voluntary movement is offset as to spatial value by the volitional character of the movement. It follows from this that objects

at rest may be made, while the eye also is at rest, to suffer displacement in visual space by the *tendency to movement* merely, as has been actually shown by experiment.[1] The second offsetting factor is also directly indicated in this experiment. The organism is not obliged, further, in accomplishing its adaptation, to take account of the second contingency mentioned, which arises only under pathological or artificial circumstances. Paradoxical as the conditions here involved may appear, and far removed as we may still be from a *causal* comprehension of them, they are nevertheless easily understood when thus viewed teleologically as a connected whole.

Shut up in a cylindrical cabinet rotating about a vertical axis, we see and feel ourselves rotating, along with the cylindrical wall, in the direction in which the motion takes place. The impression made by this sensation is at first blush highly paradoxical, inasmuch as there exists not a vestige of a reason for our supposing that the rotation is a relative one. It appears as if it would be actually possible for us to have sensations of movement in absolute space,—a conception to which no physical significance can possibly be attached. But physiologically the case easily admits of explanation. An excitation is produced in the labyrinthine canals of the internal ear,[2] and this excitation disengages, independently of consciousness, a reflex rotary movement of the eyes in a direction opposite to that of the motion,[3] by which the retinal images of all objects resting against the body are displaced exactly as if they were rotating in the direction of the motion. Fixing the eyes intentionally upon some such object, the rotation does not, as might be supposed, disappear. The eye's tendency to motion is then exactly counterbalanced by the introduction of a factor extrinsic to consciousness.[4] We have here the case mentioned above, where the eye, held externally at rest, becomes aware of a displacement in the direction of its tendency to motion. But what before ap-

---

[1] *Analysis of the Sensations.* English Trans. Page 59.

[2] *Bewegungsempfindungen*, 41 et seq. Leipsic, 1875.

[3] Breuer, *Vorläufige Mittheilung im Anzeiger der kk. Gesellschaft der Aerzte in Wien, vom 20. Nov. 1873.*

[4] *Analysis of the Sensations.* English Trans. Page 71.

peared as a paradoxical exception is now a natural result of the adaptation of the organism, by which the animal perceives the motion of its own body when external objects at rest remain stationary. Analogous adaptive results with which even Purkynje was in part acquainted are met with in the domain of the tactile sense.[1]

The eyes of an observer watching the water rushing underneath a bridge are impelled without noticeable effort to follow the motion of the flowing water and to adapt themselves to the same. If the observer will now look at the bridge, he will see both the latter and himself moving in a direction opposite to that of the water. Here again the eye which fixates the bridge must be maintained at rest by a willed motional effort made in opposition to its unconsciously-acquired motional tendency, and it now sees apparent motions to which no real motions correspond. But the same phenomena which appear here paradoxical and singular undoubtedly serve an important function in the case of progressive motion or locomotion. To the property of the visual apparatus just discussed is due the fact that an animal in progressive motion sees itself moving and the stationary objects in its environment at rest.[2] Anomalies of this character, where a body appears to be in motion without moving from the spot which it occupies, where a body contracts without really growing smaller, which we are in the habit of calling illusions on the few rare occasions when we notice them, have accordingly their important normal and common function.

As the process which we term the *will* to turn round or move forwards is of a very simple nature, so also is the result of this will characterised by feelings of a very simple nature. *Fluent* spatial values of certain objects, instead of stable, make their appearance in the domain of the visual as well as of the tactile sense. But even where visual and tactile sensations are as much as possible excluded, unmistakable sensations of motion are produced; for example, a person placed in a darkened room, with closed eyes, on

[1] Purkynje, *Beiträge zur Kenntniss des Schwindels. Medizin. Jahrbücher des österreichischen Staates*, VI. Wien, 1820. *Versuche über den Schwindel. 10 Bulletin der naturw. section der schles. Gesellschaft.* Breslau, 1825, s. 25.

[2] *Analysis of the Sensations.* English Trans. Pages 63, 64, 71, 72.

a seat affording support to the body on all sides, will be conscious of the slightest progressive or angular acceleration in the movement of his body, no matter how noiselessly and gently the same may be produced.[1] By association, these simple sensations also are translated at once into the motor images of the other senses. Between this initial and terminal link of the process are situated the various sensations of the extremities moved, which ordinarily enter consciousness, however, only when obstructions intervene.

We have now, as I believe, gained a fair insight into the nature of sensations of space. The last-discussed species of sensations of space, which were denominated sensations of movement, are sharply distinguished from those previously investigated by their *uniformity* and *inexhaustibility*. These sensations of movement make their appearance only in animals that are free to move about, whereas animals that are confined to a single spot are restricted to the sensations of space first considered, which we shall designate *primary* sensations of space, as distinguished from *secondary* sensations (of movement). A *stationary* animal possesses necessarily a *bounded* space. Whether that space be symmetrical or unsymmetrical depends upon the conditions of symmetry of its own body. A vertebrate animal confined to a single spot and restricted as to orientation could only construct a bounded space which was dissimilar above and below, before and behind, and accurately speaking also to the right and to the left, and which consequently would present a sort of analogy with the physical properties of a triclinic crystal. If the animal acquired the power of moving freely about, it would obtain in this way in addition an *infinite* physiological space; for the sensations of movement always admit of being *produced anew* when not prevented by accidental external hindrances. Untrammeled orientation, the interchangeability of every orientation with every other, invests physiological space with the property of equality in all directions. Progressive motion and the possibility of orientation in any direction together render space identically constituted at all places and in all directions. Nevertheless, we may remark at this

[1] *Bewegungsempfindungen*, Leipsic, 1875.

juncture that the foregoing result has not been obtained through the operation of physiological factors exclusively, for the reason that orientation with respect to the vertical, or the direction of the acceleration of gravity, is not altogether optional in the case of any animal. Marked disturbances of orientation with respect to the vertical make themselves most strongly felt in the higher vertebrate animals by their physico-physiological results, by which they are restricted as regards both duration and magnitude. Primary space cannot be absolutely supplanted by secondary space, for the reason that it is phylogenetically and ontogenetically older and stronger. If primary space decreases in significance during motion, the sensation of movement in its turn immediately vanishes when the motion ceases, as does every sensation which is not kept alive by reviviscence and contrast. Primary space then again enters upon its rights. It is doubtless unnecessary to remark that physiological space is in no wise concerned with metrical relations.

We have assumed that *physiological* space is an adaptive result of the interaction of the elementary organs, which are constrained to live together and are thus absolutely dependent upon co-operation, without which they could not exist. Of primary and greatest importance to animals are the parts of *their own body* and their relations to one another; outward bodies come into consideration only in so far as they stand in some way in connexion with the parts of the animal body. The conditions here involved are physiological in character,—which does not exclude the fact that every part of the body continues to be a part of the physical world, and so subject to general physical laws, as is most strikingly shown by the phenomena which take place in the labyrinth during locomotion, or by a change of orientation. *Geometric* space embraces only the relations of physical bodies *to one another*, and leaves the animal body in this connexion altogether out of account.

We are aware of but one species of elements of consciousness: sensations. In our perceptions of space we are dependent on sensations. The character of these sensations and the organs that are in operation while they are being felt, are questions that must be left undecided. The view on which the preceding reflections are

based is as follows: The feeling with which an elementary organ is affected when in action, depends partly upon the character (or quality) of the irritation; we will call this part the *sense-impression.* A second part of the feeling, on the other hand, may be conceived as determined by the *individuality* of the organ, being the same for every stimulus and varying only from organ to organ, the degree of variation being inversely proportional to the ontogenetic relationship. This portion of the feeling may be called the *space-sensation.* Space-sensation can accordingly be produced only when there is some irritation of elementary organs; and every time the same organ or the same complexus of organs is irritated, every time the same concatenation of organs is aroused, the space-sensation is the same. We make only the same assumptions here with regard to the elementary organs which we should deem ourselves quite justified in making with respect to isolated individual animals of the same phylogenetic descent but different degrees of affinity.

The prospect is here opened of a phylogenetic and ontogenetic understanding of spatial perception; and after the conditions of the case have been once thoroughly elucidated, a physical and physiological explanation seems possible. I am far from thinking that the explanation here offered is absolutely adequate or exhaustive on all sides; but I am convinced that I have made some approach to the truth by it.

Kant asserted that "one could never picture to oneself that space did not actually exist, although one might quite easily imagine that there were no objects in space." To-day, scarcely any one doubts that sensations of objects and sensations of space enter consciousness only in combination with one another; and that, *vice versa,* they can leave consciousness only in combination with one another. And the same must hold true with regard to the concepts which correspond to these sensations. If for Kant space is not a "concept," but a "pure (mere?) intuition *a priori,*" modern inquirers on the other hand are inclined to regard space as a concept, and furthermore as a concept which has been derived from experience. We cannot intuite our system of space-sensations *per se*: but we may neglect sensations of objects as something

subsidiary; and if we overlook what we have done, the notion may easily arise that we are actually concerned with a pure intuition. If our sensations of space are independent of the quality of the stimuli which serve to produce them, then we may make predications concerning the former independently of external or physical experience. It is the imperishable merit of Kant to have called attention to this point. This basis is unquestionably inadequate to the complete development of a geometry, inasmuch as concepts, and in addition thereto concepts derived from experience, are also requisite to this purpose.

Physiological, and particularly visual, space appears as a distortion of geometrical space when derived from the metrical data of geometrical space. But the properties of continuity and threefold manifoldness are preserved in such a transformation, and all the consequences of these properties may be derived without recourse to physical experience, by our representative powers solely.

Since physiological space, as a system of sensations, is much nearer at hand than the geometric concepts that are based thereon, the properties of physiological space will be found to assert themselves quite frequently in our dealings with geometric space. We distinguish near and remote points in our figures, those at the right from those at the left, those at the top from those at the bottom, entirely by physiological considerations and despite the fact that geometric space is not cognisant of any relation to our body, but only of relations of the points to one another. Among geometric figures, the straight line and the plane are specially marked out by their physiological properties; as they are indeed the first objects of geometrical investigation. Symmetry is also distinctly revealed by its physiological properties, and attracts thus immediately the attention of the geometer. It has doubtless also been efficacious in determining the division of space into right angles. The fact that similitude was investigated previously to other geometric affinities is likewise due to physiological facts. The Cartesian geometry of co-ordinates in a sense liberated geometry from physiological influences, yet vestiges of their thrall still remain in the distinction of positive and negative co-ordinates, according as

these are reckoned to the right or to the left, upward or downward, and so on. This is convenient, but not necessary. A fourth coordinate plane, or the determination of a point by its distances from four fundamental points not lying in the same plane, exempts geometric space from the necessity of constantly recurring to physiological space. The necessity of such restrictions as "around to the right" and "around to the left," and the distinction of symmetrical figures by these means would then be eliminated. The historical influences of physiological space on the development of the concepts of geometric space are, of course, not to be eliminated.

Also in other provinces, as in physics, the influence of the properties of physiological space is traceable, and not alone in geometry. Even secondary physiological space is considerably different from Euclidean space, owing to the fact that the distinction between "above" and "below" does not absolutely disappear in the former. Sosikles of Corinth (Herodotus v. 92) asseverated that "sooner should the heavens be beneath the earth and the earth soar in the air above the heavens, than the Spartans lose their freedom, etc." And his assertion, together with the tirades of Lactantius (*De falsa sapientia*, c. 24) and St. Augustine (*De civitate dei*, XVI., 9), against the doctrine of the antipodes, against men hanging with inverted heads and trees growing downward,—considerations which even after centuries touch in us a sympathetic cord,—all had their good physiological grounds. We have, in fact, less reason to be astonished at the narrow-mindedness of these opponents of the doctrine of the antipodes than we have to be filled with admiration for the great powers of abstraction exhibited by Archytas of Tarentum and Aristarchus of Samos.

ERNST MACH.

UNIVERSITY OF VIENNA

BRAIN ANATOMY AND PSYCHOLOGY.[1]

> We are not born to solve the problems of the world, but to find out where the promblem begins and then to keep within the limits of what we can grasp.
> —*Goethe.*
>
> Finding the law of phenomena is understanding them.—*Helmholtz.*

AT the close of the eighteenth century, in 1796, a little book appeared in Königsberg dedicated to "Our Kant," and entitled *The Organ of the Soul.*

The author, Samuel Thomas Soemmering, one of the best men of that age, there showed that there is only one part of the brain which can be the seat of the *sensorium commune* (in which he roughly includes intelligence, consciousness, etc., etc.), viz., the fluid which fills its ventricles. That fluid alone, he contends, can bring into relation with one another the extremities of the cranial nerves,—which nerves he had traced as far as the ventricle walls. Therefore this fluid alone, he says, could be instrumental in collecting and uniting into a whole all the varied impressions which act on the organism. The author argues his point in a learned and often extremely clever fashion, and ultimately tries to show that his supposition fulfils all the conditions which the scientific men of his century had thought essential to the working of the so-called *sensorium commune.*

Soemmering's hypothesis is only one of the last of a whole series of hypotheses, which starting from Descartes's views, fur-

[1] Translated from the German by O. H. Edinger.

nished matter for thought to men of science during the whole of the last century.

According to Descartes, the soul holds its sway by keeping in touch with certain parts of the brain, and whilst receiving all the sensations transmitted through the nerves, it impresses its will on the muscles. The idea, however, of assigning to the soul a particular seat in the human structure had been abandoned by many, particularly since Christian Wolf by his ingenious arguments had divided the soul into a number of fundamental properties, which were supposed to be located in certain parts of the brain. It is known that Gall's theory was based on similar ideas. But Gall did not start from the existing classification of soul-properties: he based his theory on the simultaneous occurrence of certain peculiarities of character with particular cranial enlargements. This theory would be entirely abandoned, had not Moebius recently undertaken to investigate certain of its bearings, having come across the portrait of a mathematician, whose head presented points of interest in connexion with it.

The researches into the seat of soul-properties have taken a different turn since the experiments of Flourens. He was the first to locate memory, will-power, and consciousness in the hemispheres, leaving the other parts of the brain to account for the so-called lower functions.

Shortly after, it was shown by the discovery of the speech centres by Broca and by a long series of other observations, that certain soul-activities can be traced to particular parts of the brain surface. The great discoveries of Hitzig and Fritsch, locating numerous functions in the forebrain, have practically convinced the majority of investigators that the so-called higher soul-functions must have their origin somewhere in the brain cortex. Flechsig, in the system which he elaborated, dealt scientifically with that idea. According to him, the surface of the forebrain consists of a number of nerve centres, the most important of which are supposed to form powerful apparatuses for associations, without being in direct connexion with the sense-apparatus. The forebrain is again taken to be the chief or only seat of soul-activity. Flechsig defines

over forty separate centres in the brain cortex, barely one-fourth having been recognised by previous writers, but his deductions are by no means universally accepted, and discussion is rife, in the first place, as to his statement that there exist anatomically distinct sense centres and association centres, and secondly as to the value to be assigned to his discovery by embryological methods of a number of separate territories in explaining psychical activity.

At any rate, we are quite certain now that the brain cortex contains a mighty apparatus of ganglion cells, the ends of which can enter into varied relations with one another, as also with the remoter parts of the nerve system.

It is first and foremost to Meynert that we owe the more detailed knowledge of the stratification of the brain cortex. He was also the first to investigate carefully the lines of association in the forebrain, which had been previously discovered by Burdach, Reil, and others.

The most important studies of the cell system of the cortex, and of the varied composition of the cells, were made by Nissl. We had to wait, however, for the truly classic researches of S. Ramon y Cajal in regard to the fibres of the cortex before gaining an insight into the apparatus as a whole.

In considering the enormous amount of work done by physiologists on the function of the cortex, a few names come into prominence, as being those who founded what subsequent collaborators further developed.

They are Hitzig, Fritsch, Munk, Goltz, Ferrier, and Charcot —and we must not forget Horsley—one of the first to carry theory into practice, and who with Bergmann and a few others may be called the founder of modern brain surgery.

The sum total of experiments and the observation of disease, anyhow as far as mammals are concerned, lead us to look in the forebrain for the apparatus, whose undisturbed function is responsible for the normal working of the higher soul activity.

The question has been repeatedly raised: "In what relation do the intellectual faculties stand to the anatomical arrangements in the brain?"

Perhaps we ought first to ask: "What has anatomy to do with psychology at all?"

It has been frequently thought that a continuous series is discoverable, beginning with those functions of the nervous system which are the simplest, going on to those which lead to consciousness, and leading up to the connexion of conscious ideas, and finally landing us in intelligence.

Modern science tells us that such a series does exist, in so far as the nervous system, which is the material basis of "psychical phenomena," develops from a simple apparatus, which gradually grows in complexity.

Attempts to investigate this growth have not been lacking, but people invariably arrived at a point where progress was stopped.

We have no idea how it happens, that a part of the work done by the nervous system leads to consciousness. The attempts to fill up this very sensible gap, which has arisen from the justifiable efforts to reconcile a dualism between body and soul, must be regarded as futile. Even the question as to the nature of consciousness itself which immediately confronts us in such attempts, is so far from being solved, that it is often regarded as altogether insoluble. The difficulty, or absolute impossibility of a solution, arises from the fact that we cannot examine consciousness apart from the outer world. Things appear to us only as our sense organs communicate them. We cannot study them alone apart from all else, but have to content ourselves by simply recognising the connexion between the contents of consciousness and an outer world.

Science can only obtain knowledge of the contents of consciousness, it cannot study the outside world itself, nor yet discover how its manifestations come about.

In reasoning from his own and other work on the subject, a man like W. Wundt draws the modest conclusion, that in matters psychological, the naturalist can only affirm that psychological phenomena run parallel with physiological facts, but that on account of their different natures he has no prospect of ever bridging over the gulf between the two.

Mach also recognises this parallelism, but for him—and by what he quotes from that writer, also for Avenarius—there is no real opposition between physical and intellectual processes. We become aware of both through our sensations, and these are the final and unanalysable elements with which we have to deal as our data, and behind these sensations we cannot go. The question of the relation between body and soul, which has occupied so many investigators, does not exist for those writers; in fact they regard it as a wrong way of approaching the matter.

The naturalist should only busy himself with matter communicated to him by his senses, but of this he must attain full knowledge.

The investigator of nature must often, from purely practical considerations, start from the idea that things are what they appear to be. Only under these conditions can he do any useful work, but he must not ignore the conclusions to which the theory of knowledge leads, if he desire to gain a more extended field of observation. No one can become convinced "*that we neither study things nor their images, but only examine the symbols of them which are given by our sense-organs*"—without recognising that many apparently insoluble questions are raised in vain. But as Helmholtz, and in recent times Albrecht, have shown, we are in a position to show from the results of our study of these symbols and their transformations, that they obey laws.

The relation between brain and soul has been investigated likewise in the field of metaphysics, but I cannot find amongst the various hypotheses any of such a nature as would be likely to help us in our researches.

Really good hypotheses, such as lie anywhere on the path to truth, very often contain a significant hidden element by which further progress can be made.

Men of science appear at present to favor the monistic theory, so energetically upheld by Haeckel. It appears to me, however, that his point of view, whereby consciousness is regarded as being present in all living matter, and as gradually becoming more and more developed, as we ascend the animal scale, lacks an essential

basis, viz., that of proof, that the acts of life of the lower animals have something in them which requires the supposition that they are due to consciousness; nay, I think that on historical grounds the whole question of consciousness has been in a certain way overrated and at all events has not been thought out with sufficient care, because in most observations so far, man has been the starting point. It has been silently taken for granted that what in man we call consciousness, cannot have appeared suddenly, and that therefore the acts of even the lowest form of animal life might easily have been directed by a trace of that element.

"*But it may be possible that consciousness begins at a period when the appearance of particular acts on the part of the animal make its presence probable.*" This probability occurs in the case of animals which possess a brain cortex, and it seems that consciousness develops *pari passu* with cortical development, until we reach its highest known developed state in man.

If we consider matters from this point of view, many acts of animal life lose their puzzling character and are capable of being explained on a relatively well-studied plan. It can also be shown that a similar plan underlies such acts in human life, acts which become conscious. The question, however, is essentially simplified, if our efforts are turned towards the explanation of acts which can be explained on a mechanical basis.

So long as psychology is concerned only with processes which run their course within human consciousness, anatomy can but be of small use to it. In fact it will be more in the interest of science not to try for the present to see, how far this section of psychology can be brought into connexion with anatomical achievements. Without doubt, the day will come when here also the study of the anatomical laws to which it is subject, will become of very great importance, and the ingenious constructive arguments of S. Exner have already shown how much can be explained by simply investigating the mechanism.

The study of psychological phenomena in the highest sense and of the inner perceptions, remains therefore up to now the business of psychology. It is a gigantic task; but much admirable

work has been done during the last fifty years and we may hope for results which will in this field likewise enable us to reduce the fruit of observations to simple laws.

The problem of the nature of consciousness and its relations to the nerve apparatus may for the present be left to those, whose desire for wider results drives them to the framing of hypotheses. The naturalist waits until he sees the road on which he can walk.

Perhaps we shall one day find points of contact, but at any rate we shall get nearer our common goal by keeping on strictly separate roads, by strictly defining the question which brain anatomy can solve and those to which psychology should apply itself, unless of course, new and fresh discoveries about which we have at present no idea, should upset our plans.

Let us then put aside any ideas of consciousness and intelligence and frame the question, which can be answered as follows:

"How far can we explain the acts and the entire character of an animal from the knowledge of its anatomical structure and properties?"

The task would then resolve itself into discovering the mechanism which enables it to receive impressions, to remember them and to turn them into motor processes, and *pari passu* with the anatomical task and dependent on it, at the same time helping it along, there must be the physiological enquiry into the functional capacity both of the elementary organs and their combinations.

The thorough knowledge of a mechanism comprises not only the work which it carries out; it should also include the faculty of foretelling the work it can be put to. Thus, giving the knowledge of the construction of a dynamo, I am enabled to explain the production of the alternating current; further detailed knowledge of the engine's proportions and size, should enable me to tell exactly how much power, light, or chemical work it can be expected to produce. It is by no means Utopian to expect that we shall succeed in time in knowing the nerve-system just as well as the engineer knows his engine.

To the unbiassed observer who without prejudice approaches the study of phenomena, and to him who attaches no more than

necessary importance to the "has been," there appears the necessity of investigating, in the first place, how far the actions of animals can be explained by looking upon them as mere automata.

It may be useful, in order to avoid misunderstandings, to repeat at this point the basis on which we have so far been advancing.

In submitting that certain human or animal actions are the outcome of consciousness, it has to be *proved* in each case that that is so.

Where such proof cannot be furnished, it will be useful to discover the mechanism which can perform the particular action, without assuming the presence of consciousness at all.

The human frame includes several such mechanisms; it will therefore be useful, for the point at issue, to study it likewise as a machine.

It would, however, be most premature to try to explain the working of the human soul by mechanical arrangements.

Even if the results of our scientific training point to such a view, it cannot be too positively affirmed, that we have no basis whatsoever upon which it could be justified.

I remember being amused at Bellaggio in watching the play of artificial lizards for sale near the lake. The simple contrivance of a stretched rubber band and its subsequent loosening, caused these tin imitations to move in an absolutely natural fashion. Shortly after, whilst ascending the hill, I saw numerous lizards basking in the sun; and just as the india-rubber band had in the case of the imitations loosened limbs and tails, so now my shadow, or approaching step, appeared to have set in motion a mechanism which caused the live creatures to move away, one like another, in the same manner and at the same moment.

It is our business to discover how such movements originate; but it would be for the psychologist to ascertain whether, apart from the mechanical stimulation, other motives are at work, such as fear, wish to escape, former impressions, etc., etc.

Anyhow the scientific point of view is this: If our observation goes to prove that, let us say, a particular optic stimulation will

invariably have precisely the same effect in causing certain movements, then the assumption that consciousness simultaneously plays a part in that process would have to be *proved*. It would be most unscientific to assume such influence, merely because it may be traced in the human frame on similar occasions. To prove such an assumption (a very difficult proof) would be the business of those who persist in carrying human experiences into animal physiology, and thereby rather hinder than advance progress.

Let there be no misunderstanding; I am not disputing any of the prevailing philosophical views. All I wish to call attention to and to recommend, is a new method of research. I am far from desiring to deny the presence of consciousness; and the position which I take up, is aptly expressed by the following quotation from Spinoza: "Et enim quid corpus possit nemo hucusque determinavit; hoc est neminem hucusque experientia docuit quid corpus ex solis legibus naturae, quatenus corporea tantum consideratur possit agere et quid non possit nisi a mente determinetur. Nam nemo hucusque corporis fabricam tam accurate novit ut omnes ejus functiones potuerit explicare."

Some phenomena in the lives of lower animals which appear the distinct outcome of a free will, have been proved to be the result of chemical or physical laws; they could therefore be recreated under analogous conditions with the same certainty as the movements of iron filings under the influence of a magnet.

Such movements are described by the term "tropisms." The nature of tropisms remains to be investigated, but the process at work has been thoroughly sifted, chiefly by Engelmann, Loeb, and Verworn; and we have learned that light, warmth, the electric current, and the law of gravity are exercising their influence on lower animals exactly as they do in the case of plants.

Hardly twenty years ago Bunge quoted an observation of Cienkowsky's, relating to an infusorium, the Vampyrella, which chooses amongst a mass of seaweed a particular kind, the Spirogyra, into which it burrows. He uses this fact for proving the presence of psychical qualities in creatures, at the bottom almost of the animal scale.

But we know now, that many chemical substances attract or repel the lower strata of plants and animals, and we further know that certain plants produce these substances. Thus the whole process becomes clear, if not explained, and it certainly is no longer necessary to attribute powers of discernment to an infusorium.

Loeb has made use of these tropisms for compelling creatures to useless or even detrimental actions. Thus certain tubicolous worms draw themselves under all circumstances into any apertures which may be accessible; they will even crawl into brightly lit-up glass tubes, where they are bound to perish, and this solely, because the force which compels them to enter the tube is greater than the stopping power of the light.

Other actions of lower animals extremely logical in appearance can be imitated. Thus Rumbler constructed amœbas from chloroform drops and other matter. The artificial things built houses of grains of quartz just like the real creatures. They flowed round small bodies, and if these possessed certain chemical affinities, they absorbed them, just like real amœbas. Yet nobody would think of attributing reason to these automata, nor has it yet been proved that the identical actions of the real creatures are attributable to other than mechanical and constructive qualities.

Loeb maintains the hypothesis that all animal actions can be reduced to tropisms. To him the nerve system is but a strengthening and regulating element, whose co-operation with the mechanism engenders more highly developed and more varied activity. He tries to prove this theory in an interesting work, but to me he appears to be going rather too far, because he does not attach sufficient importance to the peculiar qualities of the nerve system. He maintains that animals possessing a nerve system could get on just as well without it; he cites the frog-spawn whom Schaper had deprived of their brain, and who in spite of it and with spinal cord degenerated, very cleverly avoided the touch of the needle; on referring to Schaper's work, I have my doubts as to whether the spinal cord can be assumed to have been out of function. I take it from Schaper's illustrations that the apparatus proper of the spinal cord—viz., the one not dependent on the brain—had

been preserved, and that therefore the spawn was merely in the same condition as other animals which have been experimented upon after being deprived of their brain.

Most of the so-called soul-life is dependent upon the nerve system. How much do we know about the latter, and in what direction does further work lie?

We may take for certain the fact of transmission of an outside stimulation to some cell, and the possibility of emanation from that cell, or from others connected with it, of motor phenomena—the reflex of the first reaction; we may likewise assume the presence of some mechanism for the working of it all.

It is certain that a great number of complicated phenomena, although apparently impossible without the intervention of will-power or consciousness, can be traced to Reflex Actions.

A large amount of work has been done since the time when the well-known diagram was established, where a nerve, starting from the periphery, joins a ganglion cell, whilst at the other end of that cell another nerve starts for the motor apparatus.

This simple theory has grown in complexity. It has been found that the effect of a stimulation is simultaneously conveyed to a plurality of cells. These pluralities or plexes, their arrangements, connexions, and relations with one another and with fibres have been investigated. More recent experiments of Apathy and Bethe have proved a perfect system of fibrils within the nerve-cell, emanating from various parts, crossing and re-crossing each other, so that each nerve-cell may therefore be considered a nerve centre by itself. Nissl has told us of the presence in between these fibrils of different substances subservient to life and function of the cell; part of these substances very probably contain the elements of chemical energy necessary for the working of the cell functions.

The anatomical problems which remain to be solved, have reference to the minute relations between those various parts. There is a difference of opinion as to whether the individual cells and their annexes are physiological entities, and therefore theoretically capable of individual action; or whether they are merely the points and crossings of the complicated fibre apparatus which goes

to make up the nerve system. The majority of scientists incline towards the former opinion. It having been proved that the cells with their annexes are at least biological entities, which can perish singly, a certain individuality must be attributed to them, even if further researches should prove that Reflex Actions mainly depend for their working upon the fibrillar apparatus.

Most important to psychologists is the following question, the solution of which will have to be furnished by the physiology of the nerve system. In how far may the course of nervous processes be changed by the fact that the physiological elements have been previously affected by particular stimulations, and may we not assume that such previous stimulations will under certain circumstances cause changes, which will come into play during the course of other or similar, but later occurring, processes?

The question embraces the problem of memory, which may therefore be investigated without touching on the larger problem of consciousness. Physiology, whilst studying the phenomena known as brain-paths, has taken the first step towards the solution of this matter.

The researches into Reflex Actions used to be undertaken chiefly for physiological reasons. In the case of many of them we know the exact conditions under which they take place, under which they can be accelerated or prevented. But the remarkable researches into the spinal cord by Pfluger and von Goltz have given proof that much higher problems may be approached in connexion with investigations into reflex-phenomena. In this respect we have profited largely by experiments made on lower animals. We have, in numerous instances, succeeded in tracing actions of highly reasonable and apparently logical nature to comparatively simple anatomical arrangements.

The researches of Loeb, Friedlander, Bethe, von Preyer, and von Uexkill have opened new roads and given rise to new views. It has been proved that certain stimulations will with certainty start into activity particular reflex-arcs; that, for instance, the chemical stimulation caused by the reception of food will instantly set mouth and jaws into sympathetic motion. A bee's mouth will

keep sucking honey even after the head has been cut off the body; other stimulations will cause a forward movement of the head and such movement can be of sufficient force to lead to very curious results. Thus a planaria on which two heads have been bred will sometimes tear its own body in the effort of moving each head separately. (Loeb.) Two arms of a star-fish, squeezed into a narrow bottle, will drag the whole body after them, although the creature must inevitably perish. The head part of a lob-worm, separated from the body and covered with sand on the slate, will immediately start a boring movement, and the lower part of a bee when cut off from the body will apply the sting, if interfered with. This is evidently the mechanical result of a particular stimulation and has nothing in common with anger, venom, or self-defence.

Such particular reflex movements, the apparatus for which may sometimes be separated from the body without detriment, are well known, and it has been possible, as in the case of Carcinus mænas (Bethe), and in the case of other crustaceans and worms (Loeb), to explain almost the entire demeanor of an animal by single actions of anatomically definable mechanisms.

In most cases we have to do with a composite nerve-system: the details of some nervous systems are accurately known to us so that we can, for instance, picture to ourselves how the crawl of a worm is caused by some particular stimulation; what the mechanism is like, that works the co-ordinated movements of first the front and then the lower parts. Sometimes the reflex apparatus placed outside a somewhat unimportant nerve-system, maintain a great degree of independence; as, for instance, in the case of the sea-urchin (Uexkill), which is provided with a number of separate nervous mechanisms, each working independently and supplying the animal with food, cleansing it, and moving it about. A dog, says that author, moves its legs in walking. The sea-urchin is being moved by its motor apparatus. He calls such an arrangement a reflex-republic.

We have, of course, not nearly reached the end of our researches, and numerous actions of the lower animals are still far from being explained by any facts within our present knowledge.

Quite apart, for instance, from the somewhat complicated actions of the ants—actions which we can only partly explain, there are numerous plain and simple movements, the causes of which remain obscure; amongst these I cite the propensity to escape; most animals move more or less rapidly away from sudden outside influences. This propensity is already exhibited by fish embryos, and was prominent in the case of Schaper's brainless frog-larvæ with diseased spinal cords; likewise quite unexplained are the motives which cause migrations and their directions; and many other matters.

Our researches and consequent deductions have demonstrated that as the reflex mechanism can be inherited, so can there be heredity of the functions which emanate from it, even when they are very complicated and irreducible to simple stimulations.

These inherited actions, simple or complex, may be brought under the much abused term of "instinct." We thus obtain a definite and *objective* way of looking at those combined reflex actions which the individual, like all other examples of his species, brings ready made with him into the world, and also at such new qualities as he may acquire in the course of his individual existence. Proceeding therefrom we can analyse each single action of the animal as to, (1) whether it is based on a single spontaneous reflex common to a large group of animals, (2) whether it is based on a more complicated phenomenon produced by the whole group in an identical manner, and (3) whether the process is such as can have been acquired only by the individual, in which case it remains to be ascertained in what degree the nerve-system of the individual is able to receive new impressions, to retain them and to reproduce them subsequently in similar or modified associations.

A recent very interesting paper on the biology of the honey-bee by von Buttel Reepen, arrives at the conclusion that these insects are not pure reflex machines but that besides numerous inherited reflex actions, they possess signs of a memory; that they can learn and are able to form associations from impressions. This discovery appears quite intelligible without assuming the co-operation of consciousness.

Single reflex apparatuses are present in the intestines, the heart, and the skin of all vertebrates. Most of them, however, have their seat in the central nervous system.

With our present anatomical and physiological knowledge of the spinal cord and the oblongata we may take it for granted, that these portions of the nerve-system contain only apparatus working according to the reflex type. We have even succeeded in discovering the mechanisms for many functions and in locating their position in the general apparatus.

The study of the spinal cord has resulted in such intimate knowledge of that organ, that it may now be reckoned amongst the most transparent parts of the human body. Not only do we know to a certain degree the individual mechanisms which it contains, we can also diagnose their position and we know their connexions with other parts.

Many experiences of investigators with regard to reflex actions are now receiving their anatomical explanations. I may be allowed to cite one, because it is particularly suited to show that ideas are open to modification which are based on purely human points of view.

It is a well-known fact that frogs couple in spring-time. No knife, nay, no power on earth can part the loving couple. Earlier experiments by Goltz have shown that at the coupling-time the skin of the female even though she be dead, nay, even the skin of a dead male if stuffed with ova, gives rise to the reflex action of embracing, as soon as it is brought into contact with the inner side of the frog's feet! We might cut up the frog from behind up to the cervical cord, or crush it from head downward, the result will remain the same; i. e., the ring formed by the cervical cord and the two arms, even when entirely separated from the rest of the body, will continue in the position and action of the coupling frogs. Now, if in order to explain this action in the light of consciousness, we were to locate that particular consciousness in the neck, it would be necessary to find some sort of *proof* for such an assumption. But the naturalist must be satisfied with the simpler conception,

i. e., the purely mechanical nature of the embrace, as long as the latter explains all the visible manifestations.

Whether the spinal cord can retain impressions, use and reproduce them, or, to put it briefly, whether the spinal cord can "learn," remains a problem. The experience gained in the practice of complicated movements points to an affirmative solution. But special experiments would be welcome. It might be possible, for instance, to find out whether a very familiar movement, the result of long practice, could still be carried out after the brain has been removed, be it only for a few seconds (as is the jump of a beheaded rabbit, or the swimming of a decapitated duck).

Much therefore remains to be done; still, we know already in what direction to look for new results, and how the actions originate, which are based on the reflex apparatus of the spinal cord and the oblongata.

All the anatomical researches in regard to lower animals, and into the spinal cord of the higher ones, tend to prove that nothing more determines the capacity of the mechanism than its measure of relation to other mechanisms.

Anatomy has shown us in increasing numbers the channels through which such relations or associations take place. The nerve apparatus grows in the rising animal scale by a process of superposing new apparatus over the lower ones, either joining those together, or forming new and varied centres of associations and brain paths.

My own researches during the last twenty years have demonstrated that the bulk of the nerve centres and association apparatus situated in the spinal cord and further forward towards the corpus striatum, have in principle a similar structure with all vertebrates.

There is nothing to show that this very constant structure varies anywhere in its functions. On the contrary, it is to be assumed that the same mechanism will originate the same actions, notwithstanding the fact that the function of an apparatus may on the appearance of a new apparatus lose importance in proportion as that of the latter grows.

No observations now prevent our drawing conclusions from the nerve system of an animal about its capacities in certain directions, when we know of an analogous structure and its functions in the case of another animal.

On the whole, we know very little of the working of those portions of the vertebrates' brain which are situated between cortex and oblongata; and therefore it would be interesting to know more of the character of those animals which have no cortex. It would perhaps be possible to use the knowledge obtained in that direction in the study of higher animals; in whose case the large cortex apparatus completely blots out any probable action of the lower centres.

This led me to investigations into the psychical endowments and limitations of teleosts—vertebrates which are not yet possessed of a cortex. The observations have proved that fishes are only able to form very few associations. They are reflex machines, exhibiting a certain number of co-ordinated actions, which may be described as manifestations of instincts; they have very little capacity for learning; they find out the conditions under which they are fed, and after the repeated concurrence of these conditions they swim up to the feeder just as before they approached the natural food. They learn to forget fear. That is about all I have been able to gather from numerous experiences communicated to me from hundreds of sources.

A considerable change takes place on the appearance of the cortex. When this apparatus (first markedly pronounced in the reptile) is superposed over the other parts of the brain and is gradually added to by other particular parts, then the individual is placed in possession of a number of new mechanisms, all of which are joined to, or connected with, the lower central apparatus. We know the particular lower centres with which the earlier cortex parts are connected, nay, we have learned that in the rising animal strata the cortex grows gradually round the lower portions, simultaneously connecting with other and more distant points in the brain.

Anatomy has already pointed out that in the case of the lower

vertebrates, mainly the olfactory nerves connect by their ends with the more complicated cortex apparatus, that first in the case of birds powerful brain paths are developed from the end of the optic nerve to the cortex.

Nay, some of those very early brain paths have been traced in the human brain, and the possibilities of associations, even in the case of the very earliest cortex, are of a complex and far-reaching nature—the results merely of structural improvements. This has been proved by numerous researches into the pallium of the mammalian brain.

Already in the case of the amphibious animals and certainly upwards from the reptile, the amount of fibrous structure leading up to the brain cortex bears no proportion to the powerful fibre and cell apparatus situated inside it. It is impossible not to conclude that this mechanism offers the possibility of numerous associations from impressions conveyed through a very few channels, and that, as Flechsig has it, the cortex is merely an apparatus for forming associations.

We ignore the actual processes which take place inside the cortex. But according to present experiences we must attribute at least two qualities to it. Firstly, the faculty in a very high degree of retaining impressions; and secondly, the faculty of associating them with one another; we may further attribute to it the faculty of somehow turning sensory stimulations into movements or of preventing movements. There is no reason for assuming that either cortex or any other part of the nerve system has the faculty of creating movements without the previous reception of sensory impressions. On the contrary, everything seems to point to the conclusion that what we call free will is but the final state of a long series of processes, which had their starting-point in sensory receptions.

We know already so many connexions between the brain cortex and the lower centres, as also between the individual parts of the cortex itself, that it has been possible by careful localisation to study very complicated mental functions, such as speech, seeing and reading. With respect to certain parts of that marvellous a

paratus—man's brain—we are getting near the completion of our experiments on the main features of the mechanism. We have, for instance, an approximate idea of the apparatus and associations which are required for turning a command, given in writing, into action.

Psychological analysis and anatomical researches here meet on common ground—numberless investigations have explored it—but if on the whole the results are not such as one might well desire, the cause for the shortcoming is to be found in the enormously complicated nature both of the psychological phenomena and of the anatomical conditions.

"*The task which psychology has sometimes set itself of trying to obtain a closer knowledge of man's soul-life by help of the construction of his brain has proved to be far too high.*" Nor have the investigations into animal psychology been altogether of a profitable nature, because they have chiefly been carried out on mammals.

But anatomy has become our guide on a new road, which is likely to lead to useful results; we know that the lower vertebrates as compared with mammals, and still more as compared with man, are capable only of extremely simple and transparent actions. If we try to submit the soul-life of these animals to a much closer observation than has so far been granted to it, we find ourselves confronted by a comparatively simple problem; and we know now so much about the construction of the lower vertebrates' brain, that we are in many respects more familiar with the brain, say of a lizard, than with that of man. We must therefore try to see what fishes, amphibious animals, and reptiles are able to do, and how far their behavior can be explained by the construction of their brain. The problem is not such a difficult one as it might appear at first sight.

In reviewing the existing knowledge of the lives of those creatures, we find that they have rarely been under unbiassed observation, and that conditions have nearly always been very unfavorable.

In the first place, and guarding against the common mistake constantly substituting human sensations and desires, it is soon arent that a great deal, including search for and seizing of food,

can be ascribed directly to reflex movements. The frog does not search for the worm, but the moving worm, when sufficiently perceived by eye and ear, sets into motion the process, on the frog's part, of catching it. This can easily be perceived in places where animals are kept in a cool temperature, and processes run their course slowly. The well-known fact that lower animals mostly feed on moving objects is thus explained. It is easy to deceive them by setting objects in motion. Artificial bait-fishing is based on the same principle.

Another fact, much overlooked, but considerably facilitating research, is, that all lower animals, when observed under natural conditions, lead a lethargic existence from which they are only roused under the influence of hunger, the sexual instinct, or the stress of weather.

Tritons and salamandra whose nerve system is no more developed than the human nerve system in the second month of gestation, are practically free embryos spending eleven twelfths of the year in sleep. The majority of our snakes probably do so likewise. As far as I can see, both quality and quantity of whatever action is developed by the lower animals, has been over-estimated, because they have generally been observed in a roused state, but chiefly because notice has only been taken of what they actually did, whilst the enormous extent of time spent in inactivity has not been taken into sufficient consideration. It will be admitted that even this unpsychological method of observing the soul-life of animals may lead to results useful in simplifying and clearing up truly psychological problems.

We have already seen how the question of memory can be reduced to points which may be studied without assuming the presence of consciousness, if we only accord to the term memory a broader meaning than conscious reminiscences. Another instance is furnished by the question whether the lower animals suffer pain. Man cannot imagine pain which he does not perceive, and he therefore sometimes calls anæsthetics, painkillers. Animals have always been supposed to feel pain, but it has not yet been proved that the worm turns because he feels that he is trodden on.

If we cut (Norman) the Allolobophora caliginosa (of the earth-worm species) into halves, the frontal half will merely crawl away, whilst the other half will twist and curl itself about as if it alone reacted on the strong stimulation of the cut; but we find by continuing the cutting-up process, down to the most infinitesimal sections, that the hindmost pieces will always continue those movements which are commonly supposed to indicate pain, whilst the frontal parts resume their more quiet behavior. It will be admitted that the mechanism underlying those movements can be anatomically explained, and that it ought also to be possible to determine the physiological laws to which the stimulation on the hind parts and the stoppage of the movements in the frontal sections are subject. But what reasons have we for assuming that those movements are accompanied by pain? We have not even analogous cases to fall back upon for comparison! If man or the higher animals in case of severe stimulations make certain movements accompanied by pain, that is no reason for assuming similar effects in the case of cortexless lower animals; we know that the identical movements are often made under similar stimulations, without the accompaniment of pain; take the struggling movements of a person under the influence of anæsthetics, or take the case of a person with the lower portion of his body in an anæsthetic state; he will draw in the foot under the prick of the needle, without feeling pain, in exactly the same way as when actually feeling it.

I feel confident that a continued study of the psychic behavior of animals with simple actions and of simple brain construction, will lead to results, which will facilitate the problems of human psychology.

The main point is to find out, up to what point the action of vertebrates can be explained by known anatomical mechanisms. Even then we shall most probably arrive at a point in our researches where the assumption of consciousness becomes a necessity. But that point is being moved farther and farther away, and if we faithfully adhere to our methods, the explanatory process will steadily advance farther still.

When we arrive at the point at which actions can no longer be

explained, except by assuming a certain amount of consciousness, then it will be time to take the opposite course and follow downward in the animal line that which still remains obscure. We can scarcely suppose that consciousness comes suddenly into existence at a given stage of development.

So far, the practice of explaining animal manifestations by human experiences has led to few results; it is therefore surely time to try and form conclusions by going the other way about, working upwards from below.

An entirely new field for research is thus opened up, and I hope to have shown in the foregoing where its points of contact lie with what up to now has been called psychology. The day will come when the two branches of the same science will join hands for the solution of the higher problems.

L. EDINGER.

FRANKFORT.

THE RESURRECTION OF CHRIST.

OF all the memorable events connected with the life of Jesus Christ hardly any is of greater importance than his resurrection. The Christian Church has always based its very right of existence upon the truth of the Easter-message. No less an authority than Saint Paul has written: "If Christ hath not been raised, then is our preaching in vain, your faith also is vain,"[1] and: "If Christ hath not been raised, your faith is vain; ye are yet in your sins. Then they also which have fallen asleep in Christ have perished. If in this life only we have hoped in Christ, we are of all men most pitiable."[2] In view of such statements it cannot be denied that, the Easter-message once generally discredited, men will cease to recognise in Jesus of Nazareth their Messiah. But, on the other hand, it is very clear that the traditional representation of the Easter-event arouses more outspoken doubt and contradiction than anything else in the teachings of the Christian Church.

Such a condition of affairs is apt to compel Christians to investigate the true causes of the hostility encountered by the Easter-message. Theoretically speaking, there are three possible explanations. Man may be induced by his natural perversity to reject and scorn what is true and wholesome for no other reason than because it is true and wholesome. Or, the Easter-message may be utterly incredible and false. Or, finally, the Easter-truth may be presented in such a wrong way that the average hearer is repelled, instead of attracted, by it. In order to ascertain the true cause, it will be necessary to define clearly and distinctly the original and therefore

[1] 1 Cor. xv. 14.

[2] 1 Cor. xv. 17–19.

unquestionably orthodox meaning of the Easter-message. Having done that, we may proceed and determine with comparative ease whether we share that belief, and what modifications, if any, we have to make concerning it.

The original apostles defined their mission as that of witnesses to the resurrection of Christ.[1] Both Saint Peter and Saint Paul are seen to lay the greatest stress upon the fact that Jesus Christ, after his death on the cross, rose on the third day from the dead.[2] The question, however, is what idea they desired to impart to the mind of their audiences when they stated: "The Lord is risen!" Friedrich Schleiermacher, "a prince among theologians,"[3] supplies the following answer: "There are two contradictory indications in the narratives. First, the indication that we have to think of his condition as the restoration of his life in his former state; second, other indications which prompt the supposition that a continuity of the existence of Christ is not to be believed, but that the whole rather appears to be a phantom. Among those of the first class I reckon first of all that Christ was seen in his former shape and figure. Otherwise, Mary would not immediately have recognised him. How could he have referred his disciples to his wounds? He even expressly denies representing a being exempt from the ordinary course of nature, that is to say, he exercises all human functions, eating and drinking not excepted. That is the one image offered of the risen Christ. But there are indeed other traits, namely, that he disappeared, that he entered a room while the doors were locked, and especially the quite sporadic character of his appearances, without any notice concerning his place of abode in the meantime. These latter features obliterate the image. But I presume it to be evident that we have to ascribe the greatest importance to the utterance of Christ, that intentional utterance, by which he desired to convince his disciples of being absolutely the same as before."[4] This explanation of Christ's resurrection is

[1] Acts i. 22.

[2] Acts ii. 22–33, iii. 15, iv. 10, x. 40, xiii. 30, xvii. 31, xxvi. 23.

[3] Comp. G. P. Fisher, *History of Christian Doctrine*, 1899, p. 502.

[4] Schleiermacher, *Das Leben Jesu*, Berlin, 1864, p. 473. (The German text

also advocated by the church-historian Karl Hase[1] and the Chevalier Bunsen,[2] not to speak of their less renowned predecessors. They held that Jesus's death on the cross was not real death, but a deep, death-like trance. After the supposed corpse had been deposited in the cool chamber of the tomb, Jesus awoke, and, having quickly closed up his wounds and regained strength by means of his wonderful art and power of healing, he went forth to look for his faithful adherents.

This conception of Christ's resurrection appears very plausible at first sight. It surely avoids certain very serious objections which have been raised against the traditional view. But the first argument with which Schleiermacher attempts to support it,—the striking resemblance between the risen and the crucified Christ, the scars, or marks of his wounds,—does not seem to be very firmly established. The likeness cannot in two cases at least have been very marked. For, according to John,[3] Mary did not instantaneously recognise the risen Lord, but mistook him for the gardener; and, according to Luke,[4] the two Emmaus-disciples did not know Jesus, although he had walked and talked with them for quite a while. Their eyes were not opened, until at supper "he took the bread, and blessed it, and brake, and gave to them," or, in other words, performed the characteristic rite of the Lord's Supper.

The two principal passages on which Schleiermacher's hypothesis might be based are found in Luke xxiv. 36–43 and John xx. 26–29.[5] According to them Jesus invited his disciples to touch him in order to convince them that he was not a spirit, but a living being of flesh and bones. He even ate a piece of broiled fish in their presence and thus demonstrated in an unquestionable manner his real corporeality. But while it cannot be doubted that, according to

---

is rather unpolished, because the book was not published by the author, but embodies only notes taken at his recitations.)

[1] *Geschichte Jesu*, 1876, p. 602 f.

[2] *Bibelwerk für die Gemeinde*, Vol. IX., p. 470.

[3] John xx. 14 ff.

[4] Luke xxiv. 16 ff.

[5] Comp. Matth. xxviii. 9 and Acts x. 41.

those passages, the risen Lord had a palpable body, means certain that he merely possessed an ordinary h For in Luke the question is not: What kind of body d Christ have? but rather: Had he a body, or was he an being? The Greek word for spirit we encounter there be translated: phantom, or ghost, that is, the spirit of son which haunts the dwelling-places of the living a visible to them.

A short investigation and review of the Jewish r life after death and the nature of heavenly beings whi in the New Testament age will establish that fact beyo able doubt. In Hauck's *Realencyclopädie für protestan logie*, 1896, for instance, we read: "The Israelitic co Sheol is based on the conviction that decomposition of by which dust returns to dust (Gen. ii. 14, Ps. cxlvi. 9, does not signify entire annihilation of human existence death an incorporeal image of the living man is separa body, the habitation of which is Sheol. With regard t they did not originally think of "the soul" (נֶפֶשׁ) or "s man. Not "souls" or "spirits" dwell in Sheol, bu shades,"[1] or "the flaccid, weak"[2] (Is. xiv. 9, xxvi. lxxxviii. 11, Prov. ii. 18, ix. 18, xxi. 16, Job xxvi. 5) in v characteristics of the individual are retained, but in a istence void of all the impulses which are given with t eating, feeling, choosing, and acting, and, consequ cordance with the Hebrew way of thinking, of everyth be called *life*."[3]

R. H. Charles has treated this subject more comp He says of the dwelling-place of the dead in the Old "Sheol was in all probability originally conceived as a of the graves of the clan or nation, and as thus its fina

[1] Revised Version.

[2] *Encyclopædia Biblica* of Cheyne.

[3] See article "Hades."

[4] R. H. Charles, *Critical History of the Doctrine of a Future* etc., London, 1899.

due course this conception was naturally extended till it embraced the departed of all nations, and thus became the final abode of all mankind, good and bad alike. It has nearly reached this stage in Ezek. xxxii.; Is. xiv.; Job xxx. 23 ('the house appointed for all living'); Eccl. xii. 5 ('his eternal house')."[1] "Sheol is said to have different divisions or chambers, חַדְרֵי־חֶמֶר (Prov. vii. 27). It is provided with gates (Ps. ix. 14, cvii. 18; Job xxxviii. 17; Is. xxxviii. 10). These are secured with bars (Job xvii. 16). It is the land of disorder (Job x. 22), and of dust (Dan. xii. 2; Job vii. 21, xvii. 16). As regards its position, Sheol was supposed to be situated in the lowest parts of the earth (Ps. lxiii. 9, lxxxvi. 13; Ezek. xxvi. 20, xxxi. 14, xxxii. 18, 24), below the sea (Job xxvi. 5), yet above the subterranean waters (Ps. lxxi. 20). It is likewise known as the 'pit,' בּוֹר (Ezek. xxvi. 20, xxxi. 14, 16, xxxii. 18, 24, 25, 29, 30; Lam. iii. 53, 55; Is. xiv. 15, 19; Prov. i. 12, xxviii. 17; Ps. xxviii. 1, xxx. 3, lxxxviii. 4, cxliii. 7), or שַׁחַת (Is. xxxviii. 17, li. 14; Ezek. xxviii. 8; Job xvii. 14, xxxiii. 18, 22, 24, 28, 30). So situated, Sheol is naturally without light. It is 'the land of darkness,' of thick darkness as darkness itself, 'where light is as darkness' (Job x. 21, 22)."[2]

The condition of the dead, or the inhabitants of Sheol, is described, as follows: "Death, according to the Old Testament, means an end of the earthly life, but not the cessation of all existence. After death the person still subsists,"[3] namely in Sheol. "The departed were conceived as possessing a soul and a shadowy body. In the older days they were called shades (*rephaim*), or, when addressed, *elohim*. During the later times when such a doctrine of man's being became current as that in Gen. ii., iii. the departed were called "dead ones," or "shades," as in the older days."[4]

Charles does not discuss the nature of the body of the departed, beyond stating that it is "shadowy." He speaks, however, of "the metaphysical inability of early Israel to conceive the body without psychical functions, or the soul without a certain corporeity."[5] That implies, as a matter of course, that the soul in Sheol resem-

---

[1] See p. 33. [2] See p. 35. [3] See p. 36. [4] P. 48 f. [5] P. 48. f.

bled its former possessor in life. This conclusion is supported by the story of the witch of Endor.[1] She conjured up the soul of Samuel for Saul and described its appearance as that of an old man, covered with a robe.[2] This robe (מְעִיל) is also mentioned in 1 Sam. xv. 27, and was a kind of gown, serving as the official robe of the prophet.[3] The appearance of the ghost of Samuel as well as the frequent reference to necromancers in the Old Testament[4] show at the same time that the Jews believed the souls of the departed to be enabled under certain conditions to return to the upper world and reveal themselves by their form and voice to living men, notwithstanding the fact that they deemed it a very grave sin to practise the black art of necromancy.

These ideas are essentially identical with those cherished by the ancient Greeks and Romans, as they are presented to us by Homer and Vergil. They likewise believed that after death the souls of men were gathered together in subterraneous regions, called in Homer Ἄϊδαο δόμοι ὑπὸ κεύθεσι γαίης (dwellings of Hades in the depths of the earth beneath).[5] The inhabitants of that lower world are ψυχαί, εἴδωλα καμόντων (souls, phantoms of the weary),[6] and νεκύων ἀμενηνὰ κάρηνα (the unsubstantial heads of the manes).[7] They are not endowed with a material body. When Achilles attempted to embrace the soul of his friend Patroclus, οὐδ' ἔλαβε (he did not take hold of him), but ψυχὴ κατὰ χθονὸς ἠΰτε καπνὸς ὤχετο τετριγυῖα (the soul went squeaking down into the earth like smoke.)[8] That is more fully explained, Od. xi. 204 ff, in the course of Odysseus's account of his visit to Hades's domains. He thrice made ineffectual efforts to embrace the soul of his mother; and when he complained of her fleeing away from him, she replied:

ἀλλ' αὕτη δίκη ἐστὶ βροτῶν, ὅτε κέν τε θάνωσιν·
οὐ γὰρ ἔτι σάρκας τε καὶ ὀστέα ἶνες ἔχουσιν,

---

[1] 1 Sam. xxviii. [2] 1 Sam. xxviii: 14.

[3] Comp. Gesenius, *Hebräisches und chaldäisches Handwörterbuch.*

[4] See: Deut. xviii. 11, 2 Kings xxi. 6, 2 Chron. xxxiii. 6, Lev. xix. 31, xx. 6 1 Sam. xxviii. 3, 9, Is. viii. 19, xix. 3, xxix. 4, Deut. xviii. 11.

[5] Il. xxii. 482, Od. xxiv. 204. [6] Od. xxiv. 14.

[7] Od. xi. 29, 49. [8] Il. xxiii. 100 f.

ἀλλὰ τὰ μέν τε πυρὸς κρατερὸν μένος αἰθομένοιο
δαμνᾷ, ἐπεί κε πρῶτα λίπῃ λεύκ' ὀστέα θυμός,
ψυχὴ δ' ἠύτ' ὄνειρος ἀποπταμένη πεπότηται.

This is the lot of mortals after they have died. For the nerves no longer have flesh and bones. But the mighty force of the blazing fire consumes them, as soon as the spirit has forsaken the white bones. The soul, however, escapes, flying away like a dream.[1]

Yet these unsubstantial souls closely resembled in outward appearance those persons to whom they had belonged during their lifetime. Of the soul of Patroclus, for instance, we read:

ἦλθε ἐπὶ ψυχὴ Πατροκλῆος δειλοῖο,
πάντ' αὐτῷ, μέγεθός τε καὶ ὄμματα κάλ', εἰκυῖα,
καὶ φωνήν, καὶ τοῖα περὶ χροὶ εἵματα ἕστο.

The soul of poor Patroclus came on, being like him in every respect, in stature and beautiful eyes and voice, and had put on his body just such garments."[2]

When Odysseus descended into the nether world where he was to seek the advice of Tiresias, he encountered and recognised his companion Elpenor, his mother Anticlea, and many other souls.[3] In like manner, the soul of Agamemnon knew immediately the soul of Amphimedon, his guest-friend of Ithaca, which together with the souls of the other suitors of Penelope was conducted to the "asphodel meadow."[4]

The Roman poet Vergil hands down to us a very similar picture of the place of abode and nature of the souls. He describes, in imitation of Homer, Æneas's descent into the lower world.[5] The souls he meets there are just as incorporeal as those of Homer. For instance, the Trojan hero comes at length to his father and:

"Ter conatus ibi collo dare bracchia circum,
Ter frustra comprensa manus effugit imago,
Par levibus ventis volucrique simillima somno."

There thrice he attempted to put his arms around his neck; thrice the shade, seized in vain, escaped his hands like light breezes and very similar to a winged dream.[6]

---

[1] Od. XI. 218.
[2] Il. XXIII. 65–67, comp. v. 107.
[3] Od. XI. 51 ff., 84 ff.
[4] Od. XXIV. 102 ff.
[5] Æneid VI. 268–896.
[6] Æneid VI. 700–702.

Compare:

ἐγωγ' ἐθελον φρεσὶ μερμηρίξας
μητρὸς ἐμῆς ψυχὴν ἐλέειν κατατεθνηυίης.
τρὶς μὲν ἐφωρμήθην, ἐλέειν τέ με θυμὸς ἀνώγει,
τρὶς δέ μοι ἐκ χειρῶν σκιῇ εἰκελον ἠ καὶ ὀνείρῳ
ἐπτατο.

I, after having reflected in my mind, desired to grasp the soul of my dead mother. Thrice I started eagerly, and my spirit impelled me, but three times it flew away from my hands like a shadow or also like a dream.[1]

Also the inhabitants of the vestibule of Hades, the Centaurs, the Scyllas, the Hydra, Chimæra, etc., are said to be: "tenues sine corpore vitas cava sub imagine formae" (feeble beings without a body in the empty semblance of a form).[2] But the souls of the departed have retained all the characteristics of their former individuality, as far at least as their exterior form is concerned. Æneas relates of Creusa's shade:

"Infelix simulacrum atque ipsius umbra Creusae
Visa mihi ante oculos et nota maior imago."

The unhappy likeness and the shade of Creusa herself and her image larger than life appeared before my eyes.[3]

Æneas recognised in the lower world not only his father, but also the souls of his companions Leucapsis and Orontes,[4] of his pilot Palinurus,[5] of his deserted bride Dido,[6] of his Trojan comrades,[7] of Deiphobus,[8] etc. The last-mentioned case shows also that the souls in Hades bore even the marks of the wounds they had received and other deformities of their former bodies.

Both Homer and Vergil further inform us that souls of dead persons were enabled, under certain circumstances, to return to the upper world and enter into direct communication with living persons. Thus the soul of Patroclus called on his friend Achilles; and not only the shade of Creusa, but also that of Anchises appeared to Æneas. For the latter tells his father:

"Tua me, genitor, tua tristis imago,
Saepius occurrens, haec limina tendere adegit."

[1] Od. XI. 204 ff. [2] Æneid VI. 292 ff. [3] Æneid II. 772 ff.
[4] Æneid VI. 334. [5] Æneid VI. 340. [6] Æneid VI. 450.
[7] Æneid VI. 481. [8] Æneid VI. 494 ff.

Thy sad image, O father, presented itself several times and compelled me to proceed to these thresholds.[1]

It is very remarkable to what an extent Hebrew, Greek, and Roman ideas on this subject are identical. There lies a long period of development along many lines of human thought and activity between the time when the Homeric poems originated and the golden age of Roman literature. Still, Vergil, in undertaking to represent the popular belief of his contemporaries concerning the "last things," draws practically the same picture as his early predecessor Homer. That cannot be altogether accounted for on the hypothesis of dependence of the later upon the earlier writer. For although it is generally conceded that the Romans borrowed their religious, philosophical, and æsthetic ideas and ideals from the Greeks, that could not have happened if those ideas and ideals had not found a well-prepared soil in the heart of the Romans. Accordingly, I should prefer to say that the Romans adopted the form rather than the substance. The Hebrew writings from which the corresponding Israelitish conceptions have been collected antedate, as generally admitted, the time when the Jews were first brought into intimate contact with the Greek world. The true reason, therefore, why the Hebrews, Greeks, and Romans concur in this respect with one another, is not so much dependence of one on the other, but the fact that the human mind which is in all its essentials the same in all ages and races has attempted to solve the same problem under exactly the same conditions. The conclusions they arrived at together with and independently of one another are the only natural and intelligent answer the ancient world with its imperfect knowledge of cosmography was enabled to give. If we should be inclined to find that answer childish and ridiculous, we ought to remember that even at the present day a very large percentage of the individuals of those nations which proudly style themselves civilised and enlightened cherishes virtually the same opinions.

Under these circumstances, we may fairly assume that, just as

[1] Æneid VI. 695 f.

Homer's ideas had not become obsolete among the Greeks and Romans at the beginning of the Christian era, the old Hebrew notions were at that date still in vogue among the Jews in Palestine and elsewhere. This is the more probable, as they occur in the books of the Old Testament which enjoyed a far greater authority among the Jews than the Homeric poems among the Greeks. We are accordingly entitled to assert with a great deal of assurance that the Jewish contemporaries of Jesus believed the shades or phantoms of the dead to have power to come forth out of the depths of the earth and enter into visible and audible communication with the living. Consequently, it is quite possible that the word πνεῦμα, Luke xxiv. 37, signifies such a ghost, especially as the phrase πνεῦμα σάρκας καὶ ὀστέα οὐκ ἔχει reminds us very vividly of Homer's statement οὐκ ἔτι σάρκας τε καὶ ὀστέα ἶνες ἔχουσιν.

First, however, the question has to be settled whether the word is ever used in that sense. That is apparently not the case in classical Greek. Liddell & Scott's Greek-English Lexicon at least does not furnish a single instance of such a use. In Homer the word ψυχή, the Latin equivalent of which is *anima*, is employed exclusively. "Only once is the θυμός said to descend into Hades (Ilias vii. 131); but this can only be an oversight or carelessness of expression."[1] The word πνεῦμα is not once met with in Homer. But since in the New Testament πνεῦμα is the equivalent of *anima* and is used promiscuously with ψυχή,[2] it is likely that it will be found there to mean also the spirit of a dead person. That is, according to Grimm, really the case in Hebr. xii. 23 and 1 Pet. iii. 19. In the first of these passages we read of "the spirits of just men made perfect." 1 Pet. iii. 19 is the famous passage principally quoted in support of the doctrine of Christ's descent into Hades. But it has to be considered as rather doubtful whether τὰ ἐν φυλακῇ πνεύματα, mentioned there, are really spirits or dead persons. There are three chief theories as to the true meaning of that term.[3]

[1] Charles, p. 137, note 2.

[2] Grimm, *Lexicon Græco-Latinum in Libros N. T.*, p. 361 b.

[3] Stevens's *Theology of the New Test.*, p. 304 ff.

One is that the pre-existent Christ, having become embodied in Noah, preached to the men of Noah's time. According to the second, Jesus, during the interval between his death and resurrection, descended into hell and preached to the spirits of the contemporaries of Noah. A third explanation has been advanced by Spitta.[1] He attempts to prove that "the spirits in prison" are the fallen angels of Gen. vi. 1 ff. According to the Book of Enoch, "Enoch, the scribe of righteousness," who represents another incarnation of the pre-existent Messiah, went to them as messenger of God after their incarceration.[2] Grimm, on the other hand, declares πνεῦμα, Luke xxiv. 37, to denote, not the spirit of a dead person, but a "spiritus (*ein Geist*), i. e., natura simplex sc. si non omnis tamen crassioris materiae et concretionis expers, intelligendi, appetendi, decernendi, agendi vi praedita (a simple being, that is to say, one which, if not lacking all concrete substance, is at least free from grosser matter, and is endowed with the faculty of perceiving, desiring, deciding, acting)." Since it is furthermore doubtful whether (Hebr. xii. 23) spirits in Sheol or in heaven are meant, the New Testament does not permit us to form a final decision as to the import of the word in Luke xxii. 37. The same holds true, so far as I know, of the Septuagint.

We shall find it otherwise when we turn our attention to the non-canonical Apocrypha of the second and first centuries before Christ. It is the main purpose of the so often quoted book of Charles to follow up the gradual growth and development of the Jewish eschatological ideas from the oldest times to the first decades of the Christian era. In doing that, he incidentally shows that the word πνεῦμα as designating the shades makes its appearance for the first time in the oldest part of the Book of Enoch[3] which, as he thinks, was probably written before the year 170 B. C.[4] Especially frequent is this use of the word in c. xxii., where it occurs in the Greek Enoch fragment not less than nine times.[5] That

[1] Spitta, *Predigt an die Geister*, 1896, p. 68.

[2] Enoch xii–xvii. [3] Enoch i–xxxvi. [4] Charles, p. 182.

[5] c. xxii. 6, 7, 9, 11, 12, and 13; comp. Swete, *The Old Testament in Greek*, vol. III., p. 805.

by no means excludes the employment of the older term ψυχή,[1] but the new word is apparently preferred. The very peculiar phrase τὰ πνεύματα τῶν ψυχῶν τῶν νεκρῶν (the spirits of the souls of the dead) which is found twice[2] perhaps indicates the stage of transition. The term πνεῦμα in the sense of "spirit of a dead person" belongs henceforth to the theological terminology of the Jews. "Some writers speak only of the spirit and the body, others only of the soul of the body, but some also use either indifferently." "Thus in the oldest writing of the century (the first century B. C.) the departed in Sheol are spoken of as spirits (in Eth. En. xcviii. 10, and likewise in ciii. 3, 4, 8)." "Again, the departed in Sheol are spoken of as 'souls' (cii. 5, 11, ciii. 7)." "On the other hand, in the nearly contemporaneous books of the Similitudes and Psalms of Solomon the term 'spirit' is not used of man at all, but only 'soul.'" "Finally, in the Noachic interpolations only the term 'spirit' is used of man (cf. xli. 8, lx. 4, lxvii. 8, 9, lxxi. 1), and likewise in the Essenic appendix to this book, where it speaks of 'the spirits of the wicked (cviii. 3, 6) and of the righteous' (cviii. 7, 8, 11)."[3] Of the further development of this conception, in the course of the first century A. D., Charles judges: "The soul and spirit are regarded as identical in the non-canonical literature of this century." In Jubilee xxiii. 31 the departed are spoken of as 'spirits'; so likewise in the Assumption of Moses."[4]

There is extant in the book on the Jewish War by Josephus[5] a very instructive anecdote referring to the Jewish belief in ghosts in the age of the New Testament. It reads as follows: "There is a certain place in the moat which surrounds the city (of Machaerus) on the northern side, called Baaras. It produces a root of the same name. Its skin resembles a flame, and it flashes forth at night a bright blaze. When, however, one approaches and wants to take it, it is not easily seized, but escapes and does not stand still, until one pours urine or monthly blood of a woman upon it. But not

---

[1] Comp. En. ix. 3 and xxii. 3.

[2] En. ix. 10 and xxii. 3.

[3] Charles, p. 232 f.

[4] Charles, p. 299.

[5] Josephus, *Bellum Judaicum*, L. VII c. VI § 3.

even then are they that have grasped it free from the danger of death, unless one happens to carry that root suspended from one's hand. It may, however, be captured also in another way, namely, as follows. People dig in a circle around it so that only a very small part of the root remains in the ground. Then they tie a dog to it, and when he rushes to follow the man who bound him to the root, the latter is readily pulled out. But the dog instantly dies, as if offered up instead of the person who intended to carry away the herb. Thereafter those who have taken it have nothing to fear. In spite of so great dangers, it is eagerly sought for on account of one virtue. For the so-called demons, namely the spirits of wicked men, which enter into the living and kill those who obtain no help, it drives out quickly, provided it is only brought near those who are sick." In this passage πονηρῶν ἀνθρώπων πνεύματα are opposed to τοῖς ζῶσιν. It is therefore evident that those πνεύματα are spirits of dead persons. That proves, in the first place, that in the age of Josephus the word πνεῦμα was still employed in the sense we first observed in the Book of Enoch. In the second place, it also demonstrates that such spirits were popularly believed among the Jews to be in some way or other enabled to return to the scenes of their former existence and trouble the living.

At this point again we have to notice a close resemblance between Jewish and Roman superstitions. Just as the Jews feared spirits of the wicked, so the Romans were afraid of "Larvæ" and "Lemures." "In Roman belief the Larvæ, in contrast to the Lares (the good spirits of the departed), were the souls of dead persons who could find no rest, either owing to their own guilt, or from having met with some indignity, such as a violent death. They were supposed to wander abroad in the form of dreadful spectres, skeletons, etc., and especially to strike the living with madness."[1] The Lemures were similar spectres of the night. "Some writers describe Lemures as the common name for all the spirits of the dead, and divide them into two classes: the Lares, or the souls of good men, and the Larvæ, or the souls of wicked men.

[1] Harper's *Dict. of Class. Lit. and Ant.*, p. 923 b.

But the common idea was that the Lemures and Larvæ were the same. They were said to wander about at night as spectres, and to torment and frighten the living."[1]

Accordingly, we cannot be astonished at the fright of Christ's disciples when they beheld their master after his crucifixion. "They were terrified and affrighted, and supposed that they beheld a spirit."[2] Jesus had suffered a violent death, and that the death of a criminal. The appearance of his ghost, under these circumstances, could but forebode a dire calamity to his adherents.

But while thus far it has been proved that the contemporary usage permits us to understand the word πνεῦμα, in the Luke passage, as denoting "a shade from Sheol," it has not yet been established that it must be taken there in that sense. For the word in itself might also mean a spiritual, that is, heavenly, being, an angel. Such is clearly the case, Hebr. i. 13–14, where it reads: "Of which of the angels hath he said at any time, 'Sit thou on my right hand, till I make thine enemies the footstool of thy feet'? Are they not all ministering spirits, sent forth to do service for the sake of them that shall inherit salvation?" Charles points out that "the fallen angels and demons" in the Book of Enoch "are always spoken of as 'spirits,' the former in xiii. 6, xv. 4, 6, 7, the latter in xv. 9, 11, xvi. 1. The term 'soul' is never used of angels, fallen or otherwise."[3] Consequently in order to render it absolutely certain that πνεῦμα in Luke xxiv. 37 does not signify a heavenly, spiritual being, but a ghost, we shall have to show that there was a clear and distinct difference between those two classes of supernatural beings, and that the difference consisted in the former possessing a real body of flesh and bones, while the latter were unsubstantial shades.

The ideas of the Hebrews and early Christians as to the nature of the inhabitants of heaven, in distinction from the inhabitants of earth and Sheol, are closely related to their conception of the world in general. Hence, it is necessary to shortly review the cosmography

[1] Harper's *Dict. of Class. Lit. and Ant.*, p. 934 b.

[2] Luke xxiv. 37.

[3] Charles, p. 196.

of the Bible. We learn in the story of creation that the material out of which heaven and earth were carved was an immense body of water, "the deep."[1] That body of water was on the second day cut into two separate parts by the firmament which "divided the waters which were under the firmament from the waters which were above the firmament."[2] The waters under the firmament were then, on the third day, caused to subside so that the earth emerged.[3] The fourth day witnessed the putting of "the lights in the firmament," an act which, as a matter of course, could not have been performed before that time. For as long as the waters under the firmament washed the sky, the lights would at once have been extinguished.

This account of the creation of the world is entirely consistent with all other Biblical references to the structure and constitution of the world. It is presupposed in the story of the Tower of Babel. There God himself is afraid that the inhabitants of the earth might succeed in erecting such an edifice, by means of which they could have directly ascended into heaven.[4] In the account of the Deluge we read of "the windows of heaven,"[5] which were opened in order to allow the waters above the firmament to fall upon the earth in the form of rain. That shows how cleverly the ancient Hebrews explained the to us so extremely simple phenomenon of rain. Passages like those found in Ps. xix., where the sun is said to come out of his chamber as a bridegroom and run his course from one end of the heaven to the other end, and Josh. x. 12 ff., "Sun, stand thou still upon Gibeon; and thou, Moon, in the valley of Aijalon. And the sun stood still, and the moon stayed," confirm the impression gained from Gen. i., that sun, moon, and stars are lights which travel daily and nightly their prescribed courses across the firmament of heaven. We are, therefore, justified in stating that, according to the Bible, the world is imagined to be a kind of two-story building, the first floor of which is occupied by the earth and its inhabitants, while the second floor which is formed by the firma-

[1] Gen. i. 2. [2] Gen. i. 7. [3] Gen. i. 9 ff.
[4] Gen. xi. 4 ff. [5] Gen. vii. 11, viii. 2.

ment which is supported by the earth at its extremities furnishes an abode for God and his angels.

A similar conception of the world prevailed also among the ancient Greeks and Romans. "The world, as conceived of in the *Iliad*, is a round plain encircled by a great river, Oceanus,—not the Atlantic, of which Homer seems to have no knowledge at all, but a purely mythical stream. The sky is a great concave roof propped up by pillars which the mighty Atlas upholds."[1] In fact, all nations and individuals at a certain stage of their development, even at the present day, can but believe in such a world, because that alone agrees with the testimony of their eyes. Children, for instance, imagine the sky to be an azure dome which touches the earth at the horizon. Our language preserves many terms and phrases which, though used by us in a figurative sense, bear witness that our ancestors who coined those terms and phrases shared the world-conception of the old Hebrews.

Some of the more highly educated Greeks and Romans had indeed outgrown that popular belief at the beginning of the Christian era. Even as early as the first part of the fourth century B. C., a Greek astronomer by the name of Eudoxus adduced mathematical proof of the spherical shape of the earth.[2] But such a knowledge never became common property in the Graeco-Roman world. Moreover, I doubt whether it was considered as much more than an interesting and not improbable hypothesis even in the schools of the philosophers. The Jewish nation which, as far as general culture and civilisation is concerned, was far behind the Greeks and Romans, still clung in the age of Christ with the greatest tenacity to those antediluvian notions.

When the Old Testament was accepted by the Christians as an integral part of their Bible, they likewise received the Biblical doctrine of the shape of the earth, and those views were generally believed not only by the unlearned, but even among the clergy down to the time of Columbus.[3] Then, for the first time in the

[1] Harper's *Dict. of Class. Lit. and Ant.*, "Geographia."

[2] Comp. Aristotle, *De Caelo*, II. 14.

[3] Comp. John Fiske, *Discovery of America*, 1894, Vol. I., p. 371.

history of the world, the fact of the sphericity of the earth began to dawn on the common mind. Since, however, they sincerely believed that the Bible contained the Truth and nothing but the Truth, they began to look upon their former interpretation of the Bible with regard to the construction of the world as a mistake and very soon forgot it altogether. At present, a majority of Christians, and among them theologians of world-wide renown, are firmly convinced that the discoveries and teachings of Copernicus, Kepler, Newton, Laplace, etc., are in perfect accord with the corresponding teachings of the Bible. They even hail such an imaginary conformity of a new scientific discovery which can no longer be discredited with the Bible as a new proof which establishes beyond question the supernatural origin and the divine inspiration of the Holy Scriptures. The *conditio sine qua non* of such an exegesis is, of course, on the one hand, a pitiable want of insight and trust in the eternal truth of Christ's religion, and on the other hand, a deplorable absence of historical sense.

There is no room for the least doubt as to the explanation of Gen. i. and kindred passages both among Jews and Christians up to the time of the discovery of the American continents. The most important source from which our knowledge of Jewish cosmography in the age of Christ is derived is the Book of Enoch.[1] Dillmann, in the general introduction to his translation of the book,[2] makes among others the following remarks: "A great part of the secrets which are revealed in the book (especially in its fourth, first, and also second division) refers to objects of visible nature, things which to explain we reckon among the tasks of natural science, botany, geography, astronomy. But the people of Israel of old never had an adequate conception of natural science." "Our author [the author of the Book of Enoch] discusses a number of the most important forces, places, and creatures of the terrestrial and atmospherical world; in the first place, such as are treated of in the Bible or which in the Bible (chiefly in the Book of Job) are ex-

[1] Charles, *The Book of Enoch*, 1893.

[2] A. Dillmann, *Das Buch Henoch*, 1853, p. xv. ff.

pressly represented as secrets surpassing human understanding (as for instance the things mentioned c. xvii., xviii. 1–5 or lightning and thunder)." "To him it is an unquestionable fact that there are chambers for the winds, hail, snow, and rain. He believes in a cornerstone of the earth, in pillars upon which the vault of heaven rests; he believes in the arrows of God and the quivers which belong to them; he believes that countless stores of thunderbolts and lightning are heaped up in heaven, etc. But he believes in those things only because it is thus stated in the Bible (in figurative language)." The term "figurative language" is indeed very familiar to the modern Bible reader. It removes worlds of difficulties in less than no time and is in that respect infinitely superior to that old-fashioned "faith as a grain of mustard seed." But what we, from our modern point of view, are inclined to regard as figurative and would justly so regard in a modern author, that by the author or authors of the Book of Enoch and their contemporaries and much more so by their predecessors, the authors of the Old Testament included, was meant and understood in its literal sense.

The following selections from the Book of Enoch may serve as samples of that natural science which the Jews and early Christians regarded as divine revelation. "I saw the chambers of all the winds, and I saw how he had furnished with them the whole creation and the firm foundations of the earth. And I saw the cornerstone of the earth, I saw the four winds which bear the earth and the firmament of the heaven. And I saw how the winds stretch out the vaults of heaven and have their station between heaven and earth: these are the pillars of the heaven. And I saw the winds which turn the heaven, which bring the circumference and all the stars to their setting. And I saw the winds on the earth, which carry the clouds; and I saw the paths of the angels: I saw at the end of the earth the firmament of the heaven above."[1] "I saw a place which had no firmament of the heaven above and no foundation of earth beneath it."[2] "This is the first law of the luminaries: the luminary the sun has its rising in the eastern portals of the

[1] Book of Enoch xviii. 1–5. [2] B. of E. xviii. 12.

heaven, and its setting in the western portals of the heaven. And I saw six portals out of which the sun rises, and six portals in which the sun sets; the moon also rises and sets through these portals, and the leaders of the stars and those led by them: six in the east and six in the west following each other in accurately corresponding order; also many windows to the right and left of these portals. And first there goes forth the great luminary, named the sun, and his circumference is like the circumference of heaven, and he is quite filled with illuminating and heating fire. The chariots on which he ascends are driven by the wind, and the sun disappears from the heaven as he sets, and returns through the north in order to reach the east, and is so guided that he comes to the appropriate portal and shines in the face of the heaven."[1]

The classical Christian interpretation of Biblical cosmography is *χριστιανῶν βίβλος, ἑρμενεία εἰς τὴν ὀκτάτευχον*. This book was written by the monk Cosmas Indicopleustes somewhere between 530 and 550 A. D. His surname means the Indian traveller. Concerning this curious work, which was composed in confutation of Ptolemy's Geography in eight books, John Fiske[2] says: "A pleasant book it is after its kind. In his younger days Cosmas had been a merchant, and in divers voyages had become familiar with the coasts of Ethiopia and the Persian Gulf, and had visited India and Ceylon. After becoming a monk at Alexandria, Cosmas wrote his book of Christian geography, maintaining in opposition to Ptolemy, that the earth is not a sphere, but a rectangular plane forming the floor of the universe; the heavens rise on all four sides about this rectangle, like the four walls of a room, these blue walls support a vaulted roof or firmament, in which God dwells with his angels. In the centre of the floor are the inhabited lands of the earth, surrounded on all sides by a great ocean, beyond which, somewhere out in a corner, is the paradise from which Adam and Eve were expelled. In its general shape, therefore, the universe somewhat resembles the Tabernacle in the Wilderness, or a modern

[1] B. of E. lxxii. 2–5.

[2] John Fiske, *Discovery of America*, Vol. I., p. 265 ff.

'Saratoga trunk.' On the northern part of the floor, under the firmament, is a lofty conical mountain, around which the sun, moon and planets perform their daily revolutions. In the summer the sun takes a turn around the apex of the cone, and is, therefore, hidden only for a short night; but in the winter he travels around the base, which takes longer, and, accordingly, the nights are long. Such is the doctrine drawn from Holy Scripture, says Cosmas, and as to the vain blasphemers who pretend that the earth is a round ball, the Lord hath stultified them for their sins until they impudently prate of Antipodes, where trees grow downward and rain falls upward. As for such nonsense, the worthy Cosmas cannot abide it."

Fiske adds in a footnote: "Such views have their advocates even now. There still lives, I believe, in England, a certain John Hampden, who with dauntless breast maintains that the earth is a circular plane with centre at the north pole and a circumference of nearly thirty thousand miles where poor misguided astronomers suppose the south pole to be. The sun moves across the sky at a distance of about eight hundred miles. From the boundless abyss beyond the southern circumference, with its barrier of icy mountains, came the waters which drowned the antediluvian world; for, as the author quite reasonably observes, 'on a globular earth such a deluge would have been physically impossible.' Hampden's title is somewhat like that of Cosmas,—*The New Manual of Biblical Cosmography*, London, 1877; and he began in 1876 to publish a periodical called *The Truth-Seeker's Oracle and Scriptural Science Review*. Similar views have been set forth by one Samuel Rowbotham, under the pseudonym of 'Parallax,' *Zetetic Astronomy. Earth Not a Globe. An Experimental Inquiry Into the True Figure of the Earth, Proving it a Plane Without Orbital or Axial Motion, etc.*, London, 1873; and by a William Carpenter, *One Hundred Proofs that the Earth is Not a Globe*, Baltimore, 1885. There is a very considerable quantity of such literature afloat, the product of a kind of mental aberration that thrives upon paradox."

The real cause of such a phenomenon, however, is not so much "a kind of mental aberration," as Fiske suggests. Those honest

men are simply misguided by a too sincere and over-consequent trust in the general talk of the pulpit and Christian apologists. When our modern scribes and Pharisees insist on the literal inspiration and infallibility of the Bible, they do not for a single moment intend to study the letter of the Bible and surrender unconditionally to the result of such a devout study. They prefer to read and interpret all popular modern views into the Bible, which is by far the easier task and suits the taste of the general public much better. The consequence is that those poor wretches who are honest in their earnest desire of discovering the true sense and meaning of the word are put down as lunatics. They ought, of course, to have sense enough to know that religion and natural science are two incommensurable quantities, that they belong to two entirely different and mutually independent spheres of human life. They ought also to keep in mind the important fact that the Bible, according to true Protestant principles at least, was never intended to serve as source and canon of all human knowledge and information, but exclusively of religious knowledge; and even there we must carefully distinguish between a purely intellectual acquaintance with the religious contents of the Bible and acceptance of the same, on the one side, and a living faith in Jesus Christ and God, on the other side.

The necessary counterpart of such a primitive conception of the terrestrial world is a similar primitive conception of heaven, that is, the world above the firmament. That appeared already in the above quoted passages from the Book of Enoch, and is stated elsewhere in that writing even more distinctly. For instance, the heavenly palace of God is described as follows: "I drew nigh to a wall which is built of crystals and surrounded by a fiery flame: and it began to affright me. And I went into the fiery flame and drew nigh to a large house which was built of crystals: and the walls of that house were like a mosaic crystal floor, and its groundwork was of crystal. Its ceiling was like the path of the stars and lightnings, with fiery cherubim between in a transparent heaven. A flaming fire surrounded the walls of the house, and its portal blazed with fire. And I entered into that house, and it was hot as fire and cold as ice; there was no delights of life therein: fear covered

me and trembling got hold upon me. And as I quaked and trembled, I fell upon my face and beheld in a vision. And lo! there was a second house, greater than the former, all the portals of which stood open before me, and it was built of flames of fire. And in every respect it so excelled in splendor and magnificence and extent that I cannot describe to you its splendor and its extent. And its floor was fire, and above it were lightnings and the path of stars, and its ceiling also was flaming fire. And I looked and saw therein a lofty throne: its appearance was as hoarfrost, its circuit was as a shining sun and the voices of cherubim, and from underneath the great throne came streams of flaming fire so that it was impossible to look thereon."[1] The difference between heaven and earth is, accordingly, not so much one in kind, but rather one in degree. Heaven and its palaces surpass earth and its buildings "in splendor, magnificence, and extent." But however much more splendid the former are, the material of which they consist is such as occurs also on earth.

Those heavenly mansions were inhabited by God and his holy angels, God as the supreme ruler and the angels as the first of his subjects. The term "Lord of Spirits" is frequently used as attribute of God in the Book of Enoch. The outward appearance of God is that of a very old man. In one place we read: "There saw one who had a head of days, and his head was white like wool."[2] Elsewhere he is said to be: "the head of days, his head white and pure as wool and his raiment indescribable;"[3] at still another place: "His raiment shone more brightly than the sun and was whiter than any snow. None of the angels could enter and could behold the face of the honored and glorious One, and no flesh could behold him."[4]

The angels of the Book of Enoch are likewise beings resembling man. We read for instance: "There came forth from heaven beings who were like men."[5] Lamech, announcing to his father Methuselah the birth of his son Noah, says: "I have begotten

[1] Book of Enoch xiv. 9–19. [2] Book of Enoch xlvi. 1.
[3] Book of Enoch lxxi. 10. [4] B. of E. xiv. 20–21. [5] B. of E. lxxxvii. 2.

strange son: he is not like man, but resembles the children of the angels of heaven; and his nature is different, and he is not like us, and his eyes are as the rays of the sun and his countenance is glorious."[1] Methuselah in turn reports the wonderful event to his father Enoch. "Unto Lamech my son there hath been born a son, whose form and nature are not like man's nature, and the color of his body is whiter than snow and redder than a blooming rose, and the hair of his head is whiter than white wool, and his eyes are like the rays of the sun, and he opened his eyes and thereupon he lighted up the whole house. And when he was taken from the hands of the midwife, he opened his mouth and blessed the Lord of heaven."[2] It is clear from this description of the new-born son of Lamech that angels were supposed to look like men, as far as the shape of their body is concerned, but to differ from them by the brilliancy of the color of their skin, the extraordinary whiteness of their hair, and the supernatural radiancy of their eyes.

The angels of the Book of Enoch are "spiritual"[3] beings, or spirits. That term, however, by no means implies that they are to be conceived as incorporeal, unsubstantial beings. They enjoy the possession of bodies fully as real and tangible as human bodies, although their bodies consist of much finer material. For that reason they are also in need of clothing, and are "clothed in white."[4] "Their garments were white and their raiment and their faces shone like snow."[5] They were able to enter, even in their spiritual state, into sexual intercourse with "the daughters of men." The marriage of the angels and the daughters of men which interested the author of the Book of Enoch and his contemporaries so intensely is related at greater length in the first part of the book.[6] It is also mentioned in a very repugnant manner, demonstrating, however, the grossness of the materialism of Jewish theological conceptions so much the better, in the following passage: "I saw many stars descend and cast themselves down from heaven, and they became bulls among those cattle and (remained) with them, pasturing

---

[1] B. of E. cvi. 5. [2] B. of E. cvi. 10 f. [3] B. of E. xv. 4, 6, 7.
[4] B. of E. xc. 31. [5] B. of E. lxxi. 1. [6] B. of E. c. vi. ff.

among them. And I looked at them and saw, and behold they all let out their privy members, like horses, and began to cover the cows of the oxen, and they all became pregnant and bare elephants, camels, and asses."[1] The metamorphosis of the stars who became bulls does not necessarily mean in this case that the angels actually changed their bodies when they married earthly women. This feature belongs rather to the allegorical style of that part of the Book of Enoch from which the passage has been taken. For, in the first part, the fallen angels are expressly addressed: "Whilst ye were still spiritual, holy, in the enjoyment of eternal life, ye have defiled yourselves with women, have begotten (children) with the blood of flesh, and have lusted after the blood of men, and produced flesh and blood, as those produce them who are mortal and short-lived."[2]

Views such as these are often supposed to denote a degeneration of the originally pure teachings of the Bible. But even according to the Old Testament, God was believed to resemble man or rather man to resemble God. For God created man in his own image.[3] The likeness between God and man is not so much one of the mind, the intellect, or spirit, but in the first place, of the shape and appearance of the body. For, however much we may dislike such anthropomorphic representations of God, the Old Testament makes God take a walk in the garden in the cool of the day,[4] just as if he had suffered from the heat of noontide. He came to Abraham, accompanied by two of his angels, looking like a man, and partook of ordinary food, cakes, veal, butter, and milk.[5] At Sodom the two angels went into Lot's house where they sat down to a feast and ate among other things unleavened bread.[6] The wicked inhabitants of Sodom did not for a moment suspect the true character of Lot's guests. Otherwise, they would not have demanded that Lot should bring "the men" out to them.[7] God himself again wrestled in the form of a man with Jacob, and his muscles on that occasion proved so strong and palpable that the hollow of the patriarch's thigh was strained, causing him to halt

[1] B. of E. lxxxvi. 4. [2] B. of E. xv. 4. [3] Gen. i. 27, ix. 6.
[4] Gen. iii. 8. [5] Gen. xviii. 1 ff. [6] Gen. xix. 3. [7] Gen. xix. 5.

upon his thigh.[1] These references could be multiplied at will not only from the Pentateuch, but also from other books of the Old Testament down to the Book of Daniel.

We do not, of course, experience the least difficulty in explaining away these too human traits in the Old Testament conception of God. They are simply the poetical ingredients of sacred legend, or have to be understood according to their deeper, truer meaning. But we ought not to overlook the significant fact that former, less critically disposed, generations of Christians were not disturbed by the literal meaning of those Bible passages. The Old Testament God and his angels therefore possess real, though heavenly, bodies, of which the human body is a copy. That such beings must have been able to mingle sexually with human beings is easy to see. Accordingly, we cannot wonder to learn from Gen. vi. 1 ff. that such an act really occurred. That "the sons of God," mentioned there, are angels and not representatives of some other race of men, follows not alone from the Book of Enoch, but from Gen. vi. 1—2 directly, as has been proved conclusively by Budde.[2]

The conception of the nature and form of God has evidently neither changed nor developed in the interval which lies between the date of the Book of Genesis, or its component parts, and that of the Book of Enoch. Aside from his moral character, the principal difference is that God has grown more transcendental in the latter writing. He has ceased absolutely to enter into direct communication with mortals. Even Enoch, as long as he was a mere man, could behold him only in a vision.[3] Not before he had been transfigured was he ushered into the presence of God.[4] That process of transfiguration which ended Enoch's earthly career is described at the end of the second section of our present Book of Enoch. "My whole body melted away, but my spirit was transfigured."[5] Thereupon he is greeted by "the Head of Days" with the words: "Thou art the son of man who art born unto righteousness," etc.[6]

---

[1] Gen. xxxii. 25 ff.
[2] Budde, *Bibl. Urgeschichte*, 1883, p. 3
[3] B. of E. xiv. 14.
[4] B. of E. lxxi. 11.
[5] B. of E. lxxi. 11.
[6] B. of E. lxxi. 14.

While Enoch still retained the form and appearance of his former human body—he is still a "son of man,"—the substance of his spiritual body had been rendered heavenly by the process of melting away all grosser matter. This episode is based on the statement in Genesis:[1] "Enoch walked with God: and he was not; for God took him." This has been interpreted as indicating that Enoch did not die, and that consequently his soul did not descend into Hades, but that he ascended into heaven bodily. The prophet Elijah is the other man of whom the Old Testament tells us that he was carried into heaven by a whirlwind in a chariot of fire which was drawn by horses of fire.[2] The later Jews very probably believed that also other righteous men had been taken up into heaven directly, before the soul had left the body. One of them was Moses, as must be concluded from the Gospel account of Christ's transfiguration[3] and from the title of the Apocryphal writing, called "Assumptio Mosis." The legend possibly was based on the statement, occuring in Deut. xxxiv. 6, that "no man knoweth of his sepulchre unto this day." The ancient Jews were in blissful ignorance of those laws of nature which prevent at least our bodies from going up into heaven. Enoch, for example, made quite extensive journeys in heaven, even before his transfiguration had taken place.

Also these ideas are closely akin to the conception of the world and nature of the gods we find in the Homeric poems, conceptions which, as Vergil's Æneid demonstrates, were still generally accepted in the age of Augustus. Olympus, the home of the gods, was high above the clouds. When angry Zeus hurled Hephæstus from heaven, the unlucky smith kept falling for a whole day, until at length he landed on terra firma.[4] In Olympus each god had his own palace where he passed the nights in sleep.[5] In the morning they assembled in the banquet hall of their father Zeus and partook of nectar and ambrosia.[6] Whenever they chose, they were enabled to assume a human body and to partake of human food.

---

[1] Gen. v. 24. [2] 2 Kings ii. 1–11. [3] Mt. xvii. 3.
[4] Iliad I., 592 ff. [5] Iliad, I., 605 ff. [6] Od. V. 93.

Thus Philemon and Baucis entertained Jupiter and Mercury.[1] Like the angels of the old Testament, they could enter into sexual relationship with men and women, and did so like the fallen angels in numerous cases, though with less dire results. Almost all prominent men of antiquity were believed to be natural descendants of gods and goddesses. Even when hidden from human view, the bodies of the gods were exposed to wounds inflicted by earthly weapons. Diomed, for instance, hit with his spear Ares who was fighting on the Trojan side. That wound caused intense pain to the god. He roared as loud as if ten thousand men had clamored all at once, and retreated precipitately into heaven. There Pæan, the heavenly surgeon, had to apply balsam in order to heal the wound.[2] Hercules, before he gave up the ghost on the funeral pyre, was carried bodily up into heaven and took a seat at the table of the immortals. These ideas had not become at all obsolete in the age of Christ, not even among philosophers. For Plato's realism must have been based on such materialistic conceptions of what we call the spiritual world; and it is well known that Plato's authority was very great even long after the birth of Christ.

So far I have endeavored to elucidate the Jewish ideas concerning the heavenly world and its inhabitants at the beginning of the Christian era exclusively from Jewish sources belonging to the immediately preceding period. It is but proper to apply also to the New Testament in order to discover there to what an extent those ideas were shared by the early Christians. By far the most important reference to our question is found 1 Cor. xv. 35 ff. Saint Paul is generally held to teach there a more spiritual conception of heavenly bodies than even the Synoptic Gospels. It is difficult to understand how that should be possible, taking into consideration the Apostle's Jewish antecedents and his Gentile environment. The Apostle certainly believes that the souls of the dead, the righteous included, sleep in Sheol, waiting there for the day of resurrection.[3] He also states that those who shall happen to be alive

[1] Ovid, *Metam.*, VIII., 611 ff. [2] Iliad, V. 855 ff.

[3] 1 Cor. xv. 52; comp. 1 Thess. iv. 16.

at the time of the Lord's coming "shall be changed,"[1] or what, according to our previous investigation, amounts to the same thing, "shall be caught up in the clouds to meet the Lord in the air."[2] Saint Paul calls indeed the risen body a "spiritual body."[3] But the very term "spiritual body" clearly indicates that he employs the word "spiritual" in a sense altogether different from what it signifies to-day. For, according to our way of thinking, the words "spiritual body" are an impossible combination, because a spirit does not have a body. The Apostle must therefore have had another conception of what constitutes a spirit than we have. His spiritual beings inhabiting heaven possessed real bodies. That is confirmed by his definition or rather attempted description of such a spiritual body. While the human body is corruptible, dishonorable, weak, and natural, the resurrection-body, that is, the body of the inhabitants of heaven, is just the opposite, namely, incorruptible, glorious, powerful, spiritual.[4] These attributes perfectly agree with what we have learned from the Book of Enoch concerning the spirits in heaven.

The discourse of Saint Paul on the resurrection in the First Epistle to the Corinthians is addressed to Christians at Corinth who, though believers in Jesus Christ, denied the resurrection. They were certainly not swayed by Jewish prejudices, but must have been Greeks who had become imbued, probably before their conversion to Christ, with such nominalistic ideas as were taught, for instance, by the Stoics. There can hardly be a doubt that they believed in the immortality of the soul, as against the resurrection of the body. For otherwise the fact that they were members of a Christian church and as such believers in Christ could not be accounted for. Thus, it is not at all the Apostle's purpose to combat grossly materialistic ideas concerning the resurrection-body. Quite on the contrary, he strongly emphasises the fact that the souls of the risen have real bodies, or, in other words, that there is a resurrection of the body. Those who denied the resur-

[1] 1 Cor. xv. 52.
[2] 1 Th. iv. 17.
[3] 1 Cor. xv. 44.
[4] 1 Cor. xv. 42–44.

rection apparently argued that the dead and buried body could not be raised, because it is subject to decay and dissolution. Saint Paul characterises such a view as sheer foolishness.[1] He had not taught that the buried body was to be raised. "Flesh and blood cannot inherit the Kingdom of God; neither does corruption inherit incorruption."[2]

Such a teaching cannot be said to represent a new Christian revelation, since it occurs already in the Book of Enoch.[3] The principal section in which it is found there is assigned by Charles to the years 104–95 B. C.[4] The second part of the Book of Enoch,[5] the date of which falls between 94–79 B. C,[6] and the Psalms of Solomon which are placed soon after the capture of Jerusalem by Pompey,[7] that is, 63 B. C., are also quoted in this connexion.[8] In the Book of Enoch xci–civ, the resurrection stands in close relationship to the creation of a new heaven. Charles states: "To share in this new heaven, the righteous dead will rise; but in the meantime their spirits will be at rest, guarded by angels (c. 5). From this intermediate abode (probably in Sheol, cf. 4 Ezra iv. 41) they will be raised (xci. 10, xcii. 3), but not in the body, but as spirits only (ciii. 3, 4), and the portals of heaven will be opened to them (civ. 2), and they shall joy as the angels (civ. 4), and become companions of the heavenly hosts (civ. 6), and shine as the stars forever" (civ. 2).[9] In support of the supposition of Charles that the intermediate abode of the righteous is Sheol, the Book of Enoch (cii. 11) could be cited, which refers to the righteous and reads: "Their souls descend into Sheol in tribulation." Charles sums up the result of his investigation in the following statement: "We find that the doctrine of the resurrection, which was current amongst the cultured Pharisees in the century preceding the Christian era, was of a truly spiritual nature."[10]

---

[1] 1 Cor. xv. 36.
[2] 1 Cor. xv. 50.
[3] Book of Enoch xci–civ.
[4] Charles, *The B. of E.*, p. 264.
[5] B. of E. xxxvii–lxxi.
[6] Charles, *The B. of E.*, p. 108.
[7] Schürer, *Geschichte des jüdischen Volkes*, 86, II., p. 589.
[8] Charles, *Eschatol.*, p. 425a, III. 1 and 2.
[9] Charles, *Eschatol.*, p. 206.
[10] Charles, *Eschatol.*, p. 239.

Charles, however, makes a mistake in assuming the word "spirit" in Jewish Apocryphal literature to denote incorporeal beings when it refers to the inhabitants of heaven. As it has been demonstrated that the angels have bodies and are spirits, and as we are expressly told in the Book of Enoch of the righteous that "they will all become angels in heaven,"[1] we cannot escape the conclusion that the Jews in the last century B. C. believed the risen spirits of the righteous to be clothed with real bodies, though not with bodies of flesh and blood. When Charles further asserts in the passage quoted above that the righteous will be raised "not in the body, but as spirits only," he fails entirely to prove that such a distinction is made in the Book of Enoch. The only passage to which he refers does not contain anything concerning the body. It reads: "All goodness and joy and glory are prepared for them and are written down for the spirits of those who have died in righteousness, and that manifold good will be given to you in recompense for your labors, and that your lot is abundantly beyond the lot of the living. And your spirits (the spirits) of you who die in righteousness, will live and rejoice and be glad, and their spirits will not perish, but their memorial will be before the face of the Great One unto all the generations of the world."[2] The raised just ones of the Book of Enoch are indeed spirits, that means, have spiritual bodies. That, however, is exactly what the Apostle Paul asserts in his First Epistle to the Corinthians. The example of Charles shows that we can hardly be careful enough in reading and explaining books like the Book of Enoch and other writings of the same period, lest we reflect present day notions and conceptions back into that early age.

It may even be doubted whether the cultured Pharisees of the age of Christ believed at all in the resurrection of the buried body, or the resurrection of the flesh. Saint Paul certainly does not. Neither does the Book of Enoch contain any indication to that effect. On the contrary, the description of Enoch's transfiguration, where his flesh is said to have melted away, points in the opposite

[1] Book of Enoch li. 4.

[2] Book of Enoch ciii. 3–4.

direction. The answer Jesus gave the Sadducees concerning the state in the resurrection of the woman who had had seven husbands does not imply that Jesus differed from the Pharisees. The question of the Sadducees represents simply a caricature of the Pharisaic belief. That, however, does not exclude the possibility that such views were cherished by the less intelligent. It is, of course, difficult for us not to confound the modern and ancient meaning of the terms "body" and "spirit." But realising that in antiquity they did not exclude one another, as they do at present, it is my impression that Saint Paul together with the cultured Pharisees of his age expected not the buried body, but the soul bearing the image of the buried body, to rise from Sheol in order to be clothed with a glorified heavenly body.

In looking over the theological literature of the present century, I find that Van Oosterzee has admirably succeeded in defining the Biblical term "spiritual body." For he describes the Lord's resurrection-body, which according to Saint Paul is the image of our own heavenly body,[1] as follows: "It is palpable, not only as a whole, but also in its different parts; raised above space, so that it can in much shorter time than we transport itself from one locality to another; gifted with the capability, in subjection to a mightier will, of being sometimes visible, sometimes invisible. It bears the unmistakable traces of its former condition, but is at the same time raised above the confining limitations of this. It is, in a word, a spiritual body, no longer subject to the flesh, but filled, guided, borne by the spirit, yet not less a body. It can eat, but it no longer needs to eat; it can reveal itself in one place, but is not bound to this one place; it can show itself within the sphere of this world, but is not limited to this sphere."[2]

There are two different ways in which those heavenly beings might reveal themselves to human eyes. They could either appear in their spiritual, glorified body, or they could lay aside their heavenly splendor. In the latter case, they looked exactly like ordinary

---

[1] 1 Cor. xv. 49.

[2] J. J. Van Oosterzee, *The Gospel According to Luke*, 1870, p. 398.

mortals and were easily mistaken for such. For that reason the author of the Epistle to the Hebrews admonishes his readers, "to show love unto strangers: for thereby some have entertained angels unawares."[1] Such incognito visits of the inhabitants of heaven on earth were naturally the rule. For the splendor of heavenly bodies was much too great for human eyes to endure. When therefore God had resolved to become manifest to the people of Israel on Mount Sinai, he enveloped himself in a thick cloud.[2] But even then, man and beast had to keep at a safe distance from the foot of the mountain in order to avoid death.[3] Moses, who alone was found worthy to stand in the presence of God, had to veil his face after he returned from such an interview. For it reflected so brilliant a light that the children of Israel were not able to draw near and look at him.[4] The idea that to behold God face to face meant instant death is met with in the oldest parts of the Old Testament. Manoah, Sampson's father, for instance, tells his wife in the Book of Judges[5]: "We shall surely die, because we have seen God."

The testimony of the New Testament as to the nature of the appearances of the risen Christ is to the same effect. According to the Gospel accounts of the resurrection, his body on those occasions resembled his former human body, and even bore the marks of the cruel wounds which had been inflicted upon him on the cross. Extraordinary brightness of face and garments, such as distinguished him during his transfiguration, when: "His face did shine as the sun, and his garments became white as the light,"[6] are not mentioned. On the contrary, it is expressly stated that he was mistaken by his most intimate friends once for a gardener[7] and another time for a stranger.[8] The only supernatural features connected with Christ's appearances after his resurrection are the suddenness of his coming and going, and the fact that he became visible in a carefully closed room.[9] On the other hand, when Saint

---

[1] Heb. xiii. 2. [2] Ex. xix. 7, 18, [3] Ex. xix. 12, comp. Ex. xix. 21, 24.
[4] Ex. xxxiv. 29–35, comp. 2 Cor. iii. 7. [5] Jud. xiii. 22, comp. Ex. xxxiii. 22 ff.
[6] Mt. xvii. 2. [7] John xx. 15. [8] Luke xxiv. 13 ff. [9] John xx. 19, 26.

Paul was called to his apostleship, Jesus revealed himself in his heavenly form and character. "The light out of heaven" which shone suddenly round about Paul was undoubtedly the splendor which emanated from the glorified, spiritual body of Christ, which was, as we know, brighter than the light of the sun. The result was that Saint Paul "was three days without sight."[1]

The fact that angels who appeared among men in human form ate human food proves that they were not mere spectres, but could indeed be said to be possessed of "flesh and bones." For that peculiar phrase by no means indicates a mortal body. The terms used in the New Testament to denote a human being as to its mortal nature are "flesh" and "flesh and blood," never "flesh and bones." The latter phrase occurs only in Luke xxiv. 39. It is the more significant, because, according to old Hebrew ideas, the blood is the seat of animal life.[2] The combination of the two words "flesh and bones" is therefore very far from conveying the impression that the body of the risen Christ was an ordinary human body. The stress lies entirely on the reality and palpability of that body in order to overcome the fear that Jesus was a spectre from Sheol. Having become assured as to this fact, the disciples could but believe that their crucified Lord had risen from the dead, and was now living in that state of heavenly glory which properly belonged to him as the Messiah, the true Son of God.

Our investigation has so far rendered it quite clear that the word πνεῦμα in Luke can but denote a ghost and not a spiritual being from heaven. For ghosts only were believed to be incorporeal beings. Consequently, the Gospel according to Luke cannot be quoted in support of the view that the resurrection of Jesus was nothing but a resuscitation from apparent, but not real, death. Such an idea is without question utterly foreign to the whole New Testament.

This explanation is supported by very old authorities. Codex D, for example, reads in our passage φάντασμα instead of πνεῦμα, and Ignatius furnishes a highly interesting paraphrase of the Luke

[1] Acts ix. 9.

[2] Charles, *Esch.*, p. 87.

passage, showing in quite unmistakable language how it w derstood by the early Christians, or, to be more exact, in th half of the second century. According to the martyr-bis Antiochia, the risen Christ told those who were with Peter: *ψηλαφήσατέ με καὶ ἴδετε ὅτι οὐκ εἰμὶ δαιμόνιον ἀσώματον* (touch and me and see that I am not an incorporeal demon).[1] Of recen mentators of the Luke-Gospel who adopt this explanation of in Luke xxiv. 37 Plummer may be mentioned.[2] He has at th time reached the conclusion that the risen Christ was not but a heavenly being. His words to this effect are as fc "The alternative—'either a ghost, or an ordinary body n food'—is false. There is a third possibility: a glorified bod able of receiving food." I hope to have proved definitely th third possibility alone agrees with the contemporary Jewi Christian ideas as to the condition of man after death and nature of heavenly beings not less than with the peculiar ph ogy of the passage in question. It must of course be co that it is extremely easy to misunderstand that passage, if unfamiliar with Jewish eschatology; and Ignatius in the quoted chapter of his epistle to the Smyrneans furnishes the misconception on record. For after citing the words utte Jesus, he proceeds to say: *καὶ εὐθὸς αὐτοῦ ἥψαντο, καὶ ἐπίστευσ θέντες τῇ σαρκὶ αὐτοῦ καὶ τῷ αἵματι* (and they at once touched h believed, because they had handled his flesh and blood). The "flesh and blood," if occurring in Luke, would indeed demo that Christ's resurrection was, at least according to that p thus changed, nothing but the entirely natural process of an ening from a deep deathlike trance. Ignatius, of course, h the least intention of making such a statement. He rather g to say: *μετὰ τὴν ἀνάστασιν συνέφαγεν αὐτοῖς καὶ συνέπιεν ὡς σαρκικὸς πνευματικῶς ἡνωμένος τῷ πατρί* (after his resurrection he ate and with them, as if he had been a being of flesh, although he wa itually one with the Father).

[1] Ignatius, *Smyrn.*, III. 2.

[2] Alfred Plummer, *Commentary on the Gospel According to Luke*, 559 ff.

We are now in a position in which we are enabled to decide intelligently what the first Christians really believed as to the resurrection of Christ, and what of this their belief has to be acknowledged as truly Christian. We have seen that they held, to our way of thinking, certain very peculiar views concerning the body of the risen Christ. These views, however, very far from having been newly revealed to them, the first Christians had received from their Jewish forefathers, who in turn shared them with other ancient peoples. It must be acknowledged that they represent the only way in which the ancient world was enabled to think and speak of the fact that a man after his demise had become partaker of the life everlasting which is a characteristic attribute of the Godhead and implies divine nature and direct and intimate intercourse with the Deity. That God possessed a body, though a glorified body, and that consequently the risen Christ had to be a corporeal being, was so natural and self-evident an idea in the eyes of the early Christians as well as their contemporaries that, in the New Testament, not the least effort is made to emphasise it. If it were not for the Old Testament and the Apocryphal literature, we might well be justified in overlooking the real meaning of the rather few and casual remarks found in the New Testament concerning the corporeity of the risen Christ.

On the other hand, the specifically Christian side of the Easter Message of the Apostolic Church must be found in the statement that the crucified Jesus has risen, or, in other words, has revealed his eternal life and thus established his everlasting Messiahship beyond the possibility of a doubt. If it were necessary to prove that explicitly, one might quote what, according to the Acts, forms the very gist of the first public testimony of Christ's resurrection.[1] Saint Peter is there recorded as having said: "Jesus of Nazareth . . ., being delivered up by the determinate counsel and foreknowledge of God, ye by the hand of lawless men (or perhaps better: 'by the hand of heathen') did crucify and slay: whom God raised up, having loosed the pangs of death, because it was not possible that he

[1] Acts ii. 14–36.

should be holden of it."[1] "This Jesus did God raise up."[2] "Let all the house of Israel therefore know assuredly, that God hath made him both Lord and Christ, this Jesus whom ye have crucified."[3] The resurrection accordingly proves that Jesus is the Lord and Christ in spite of his crucifixion. This is not alone the case in Saint Peter's Pentecost address, but in all similar speeches preserved in the Acts. Everywhere invariably the same argument is employed.[4] And the hearers, with the exception only of the Stoic and Epicurean philosophers of Athens[5] and the Roman governor Festus at Cæsarea,[6] agreed with the apostles beforehand as to the possibility of a resurrection *in abstracto*.

It cannot be pronounced emphatically enough that it is not the Easter-event as such, but rather the conclusions deduced therefrom which were uppermost in the minds of the first Christians. That is also confirmed by the evident and otherwise unexplainable carelessness with which they have handed down the details of the Easter-event to posterity. There are five different traditions contained in the last chapters of the four Gospels and the first verses of 1 Cor. xv. respectively. But no two of these accounts can be made to agree with one another, the differences in many instances being of a most serious character. Yet all these difficulties disappear at once, when we recognise that the apostles are perfectly unanimous in defining the truly Christian contents of their Easter-message. It is the life everlasting of Jesus the crucified, which has become manifest through his appearances after his death and burial, in which they rejoice. Thus we read in Saint Paul's Epistle to the Romans: "We know that Christ being raised from the dead dieth no more; death no more hath dominion over him. For the death that he died, he died unto sin once; but the life that he liveth, he liveth unto God."[7] The first and unquestionably orthodox Christian Easter-faith was neither more nor less than the strongest

---

[1] Acts ii. 22 ff. [2] Acts ii. 32. [3] Acts ii. 36.

[4] Comp. Acts iii. 14 ff. 18–26, iv. 10 ff., v. 30 ff., x. 39 ff., 42, xiii. 28–30, 32 xvii. 31, xxvi. 23.

[5] Acts xvii. 18, 32. [6] Acts xxvi. 24. [7] Rom. vi. 9–10.

possible assertion, adapted to the new circumstances and conditions which had arisen in consequence of his crucifixion, that Jesus had been, still was, and would be forever, the true Messiah; or, as the unknown author of the Epistle to the Hebrews formulates it: "Jesus Christ the same yesterday, and to-day, and forever."[1]

The question why the first disciples of Christ held that belief is easy to answer. They had, in the course of their acquaintance with Jesus, even before his last journey to Jerusalem, arrived at the conclusion that their beloved and honored master was "the Christ,"[2] "the Holy One of God."[3] His apparent defeat and ignominious death had at first rudely shaken that conviction. But when soon after his crucifixion he began to show himself to his adherents, their previous faith in him awoke with renewed vigor and could henceforth no more be weakened. They had seen their living Lord with their own eyes. The enthusiasm of their Easter-faith proved irresistible. Hundreds and thousands of people listened with a willing and eager ear to their testimony of Jesus Christ. Their own moral judgment corroborated the claim of his apostles that he had words of eternal life. On the other hand, the message of his resurrection contained nothing strange to their way of thinking and incompatible with their knowledge of the universe. Even if the risen Christ did not become visible to them, he had been seen by so many absolutely trustworthy persons that the fact of his resurrection could not be doubted. Moreover, it was but an insignificantly short time until he was to return in his state of heavenly glory in the sight of the whole world, in order to complete the work which he had begun in a state of human infirmity and humbleness. Up to that blissful moment, those who had learned to trust in him consoled and strengthened one another with that beatitude, said to have been pronounced by the risen Lord: "Blessed are they that have not seen and yet have believed!"[4]

Such is in short the truly Christian aspect of the Easter-faith of the first believers in Christ. It is the firmly rooted, unshakable

---

[1] Hebr. xiii. 8.
[2] Mark viii. 39, comp. Mt. xvi. 15, Luke ix. 20.
[3] John vi. 69.
[4] John xx. 29.

conviction of the life eternal of the crucified Jesus as the Messiah and is based, on the one hand, upon a hearty approval of and belief in his work and teachings, and, on the other hand, on his appearances before his disciples which occurred for some time after his death, beginning on the so-called day of resurrection and ending with the conversion, or perhaps better, call, of the apostle Paul.

It remains to be seen how we are concerned in such a definition of the primitive Christian Easter-faith. The first condition, now as then, of a true belief in the Easter-message, as will readily be granted, is an intimate acquaintance with Jesus of Nazareth on the part of the would-be believer. The risen Christ, according to the New Testament, revealed himself only to such as had known him before. Saint Peter tells us:[1] "God raised (Jesus) up the third day and gave him to be manifest not unto all the people, but unto witnesses that were chosen before of God, even unto us." Saint Paul's conversion forms only apparently an exception to this rule. For, as a matter of fact, he must have been pretty thoroughly informed as to Jesus Christ, even before he met him face to face. Otherwise, the hatred displayed by Saul against the adherents of Jesus could not be accounted for, and much less the remarkable phenomenon that, immediately after his conversion, he became an apostle of Jesus Christ, without any special instruction or other preparation for that calling.[2]

Intimate acquaintance with Jesus Christ among us does not necessarily imply a study of what we call Lower and Higher Criticism. Such strictly theological researches serve exclusively the purpose of teaching the preacher and religious teacher how to separate the chaff from the wheat in that great discordant mass of religious tradition which has come down to us as the inheritance of nineteen centuries of Church History. Studies of this kind are to a very large extent critical and negative. The general public, however, demands and has a right to demand first of all the positive truth. It does not care for the chaff nor for what is done with it; it wants the wheat and nothing but the real stuff. It is a grave

[1] Acts x. 40 ff. [2] Gal. i. 16.

mistake when critical scholars attempt to popularise the negative results of their investigations which according to their very nature cannot be properly valued and appreciated by the layman. The mistake is only less serious than the attempts of their opponents to persuade their followers that the Bible is the infallible source and fountain-head of all knowledge and information religious and otherwise, or that the doctrines of a certain Church represent the full truth concerning Christ's religion and nothing but that truth. Both parties confound true religious faith with purely intellectual information concerning religious problems and prevent their disciples from attaining the former. It is only the preacher and religious teacher whose calling requires them to be thoroughly conversant with both the positive and negative side of our religious faith.

The next and final step towards the acquisition of a truly Christian Easter-faith is a distinct vision of the living Christ. The necessity of such an experience is almost universally overlooked. We hear it even frequently stated that we are excluded from it. It is indeed true that we cannot expect to behold the risen Christ in that form in which the Apostles are reported to have seen him. It has become absolutely impossible for us to believe in a real and palpable corporeity of the risen Lord. But our investigation into the origin of that belief justifies us in criticising and even rejecting that purely accidental feature of the early Christian Easter-faith, without incurring the odium of attacking a specifically Christian revelation and being thus an enemy and destroyer of the true faith in Christ. Present conditions not only permit, but even compel, us to exercise sound judgment and solid common sense in this case.

When we read in Homer of the gods and goddesses of the Greeks we do not for a single moment imagine that they ever were what Homer believed them to be. We do not even deem it necessary to explain our disbelief in them. We are perfectly aware that we are dealing with creatures of human imagination, an imperfect and miscarried attempt to approach and solve the momentous and eternal problem of God. Therefore those anthropomorphic representations of the gods do not even arouse a smile of indulgence on

the part of the modern reader. Their childlikeness combined wit their great antiquity renders them much too sacred and venerabl for even such a faint indication of disapproval. That mental att tude, however, would change the first moment we should be aske to accept those, from a purely æsthetical standpoint, so pleasin myths as a true and adequate description of the spiritual, heavenl world in which we must believe. We should reject such a pre posterous proposition with the utmost scorn and point out indig nantly the puerile childishness and utter impossibility of that sys tem. Exactly the same result is bound to be produced when w insist upon claiming divine authority for that side of the primitiv belief in Christ's resurrection which, very far from having been fo the first time taught by Jesus Christ and his apostles, marks bu the imperfect conception of the visible and invisible world whic was characteristic of that age. Besides, in thus trying to hol apart shell and kernel, form and substance, we ought not to forge that the first Christians' cosmography had as little to do with the religious faith as, for instance, our knowledge of the shape of th earth with our religious convictions. There are undoubtedly t day many excellent Christians who have only very vague ideas a to the sphericity of our planet and its place in the solar system.

But the claim may perhaps be raised that we need not behol the risen Christ with our own eyes, because the Bible assures us c the reality of his resurrection; and men like Edersheim tell us c the Easter-event that it "may unhesitatingly be pronounced th best established in history."[1] Such a sweeping statement, how ever, can no longer pass unchallenged. Not to speak of the now adays tabooed criticism of Reimarus, Lessing, and Strauss, th present state of the Synoptic problem, as viewed by conservativ scholars, peremptorily forbids it. We know that the principal por tion of the narrative element in the first three Gospels must hav been derived from a common source, which is almost identical wit our Gospel according to Mark. That all three Synoptists hav adopted this common source shows how highly it was esteemed i

[1] Edersheim, *Life and Time of Jesus the Messiah*, Vol. II., p. 626.

the early Church. But this oldest and consequently most trustworthy gospel-narrative apparently did not contain anything like an explicit account of Christ's resurrection. For Mark's resurrection story is very short, and the differences between Mark and the other two are considerable. According to Mark, the risen Christ did not show himself to his disciples at Jerusalem, but had them instructed to meet him in Galilee. According to Matthew, the meeting of Jesus and the eleven disciples indeed took place in Galilee; but Jesus had first informed the two Marys at Jerusalem that he wished his disciples to return to Galilee. Curiously enough Jesus appeared to those women after exactly the same commandment had been given them by an angel. In Luke and John all the appearances of the risen Christ take place at Jerusalem. The scene of John xxi. is, indeed, the sea of Tiberias; but that chapter is a later appendix to the Fourth Gospel, as is now generally admitted. These discrepancies, not to mention that no two apparitions of the risen Christ in any of the four Gospels are identical, prove that our present Gospel accounts of Christ's resurrection are of relatively late origin. Almost the only point on which they agree is that the grave in which the dead body of Christ had been deposited was found empty on the morning of Easter Sunday.

The earliest account of the resurrection is found in 1 Cor. xv. 3–8. It is of unquestioned authenticity. Its author, as a contemporary and fellow-countryman of the eye-witnesses, was in a position enabling him to ascertain the real facts correctly and comprehensively. At the same time his apostolic office and the special circumstances which induced him to write 1 Cor. xv. are a sufficient guarantee that his account is true in all its details as well as exhaustive. He mentions six different appearances of the risen Christ. It is of comparatively little importance that they do not coincide with those mentioned in any of the Gospels taken separately or in all the Gospels collectively. For what Saint Paul does not tell us is even more remarkable than what he relates, if we compare it with the Gospel accounts. In the first place, he does not mention that the risen Lord has been seen by any women. They say of course that the Apostle of the Gentiles was a misogynist. For he

prescribed: "*Mulier taceat in ecclesia!*" ("Let the women l silence in the churches!")[1] He did not want women to occup we should express it, the pulpit. But that cannot mean tha should have refused to accept the testimony of a woman who followed Christ as to the resurrection of the Lord. That Saint quite forgets to testify as to the empty tomb is even more impor In the Gospel accounts it clearly demonstrates that the human l of Christ had risen, and the eleventh article of the Apostles' C declares in perfect harmony with the Gospels: "*Credo in C Resurrectionem*" (I believe in the resurrection of the flesh). S Paul, on the other hand, denies in 1 Cor. xv. 35 ff. expressly explicitly the doctrine of the resurrection of the flesh. Acc ingly, he cannot have known that the grave had been found em Otherwise, he would suppress the truth in the interest of a theory of his which was not shared by the other apostles and w was at variance with the actual event. These discrepancie very far to show how difficult, if not impossible, it is to estal on the hand of our sources the real facts of Christ's resurrect and therefore we dare not base on a foundation so insecure Easter faith which has to be as firm and stable as that of the Christians.

But even if we should be willing to overlook all these per ities and cling to the simple and undoubted fact that the apo of Christ are true witnesses of the resurrection, we could not the approach one step nearer to the true and living Easter-faith. word and testimony of the apostles is certainly unassailable. in the best case, it proves neither more nor less than that J lived at that time when his disciples saw him. What we nee certainty that he lives to-day. But what did the first Christ know about the beginning of the twentieth century? They n expected this old, rotten world to go on for nineteen hundred y more. They confidently looked toward a speedy return of t glorified master.

All these reasons and considerations compel us to state in

[1] 1 Cor. xiv. 34.

plainest possible language that in order to be enabled to believe at present in the everlasting life of Jesus Christ, we must see with our own eyes that he lives and dwells in our midst. Such an experience has of course to be different from what the first Christians saw. For if Jesus would come to us in his former shape and body, we should certainly fail to recognise him, having not the least idea how he looked. If he would show himself in his heavenly splendor, so that there could not be any doubt as to his identity, the sceptical spirit of the age would prevent us from trusting our own senses. We should regard Christ's appearance merely as a dream or vision void of all reality and religious meaning. The life eternal of Jesus Christ has accordingly to be revealed to us in an indirect way.

Life and activity are, as we look upon them, reciprocal terms. Where there is life there is activity, and where activity prevails there is life. A thorough acquaintance with the life work of Jesus renders us capable of judging whether that work has come to a standstill or is still producing the same effects it was designed by Christ himself to bring about. In order to decide this question, we have to note present conditions and past development of the Christian nations and compare them with the non-Christian peoples. We have also to take into account the ideals which mould the destiny of the Christian nations and determine what influence they exercised upon their history. These ideals are as a matter of course not only those professed by devout Christians, but those of all the acknowledged leaders of men in all the various fields of human activity. If such an investigation and comparison will prove that the ideas and ideals of Jesus Christ control the life of the modern Christian nations, that they rank on the scale of progress and civilisation in exact proportion to their more or less thorough acceptance of the yoke and burden of Christ, if we discover that their greatest men are at the same time also the most Christ-like, we will become clearly conscious that he lives in truth among us. We shall behold him incarnated, more or less perfectly of course, in many of our fellow-men. Nay, we shall have to recognise it as the

chief task of our individual existence to become true and perfect representatives of the living Christ.

Such an Easter faith cannot be disturbed by the squabbles and wrangles of hostile theological schools and rival churches. It is a blissful personal experience independent of all bookish knowledge and hearsay belief. At the same time it is entirely consistent with our present knowledge of the universe and with our observation of the never-dying influence the life of a great man exercises upon his fellow-men and even more so upon the succeeding generations; and a statement to this effect which I have somewhere met with may easily be applied to the case of Jesus Christ. It reads: "A noble human life does not end on earth with death. It continues in the minds and the deeds of friends, as well as in the thought and activity of the nation."[1] This again is a commentary on Faust's lines:

> "Es kann die Spur von meinen Erdentagen
> Nicht in Aeonen untergehn."

WM. WEBER.

NEW HAVEN, CONN.

[1] Gustav Freytag's motto for the American edition of his *Lost Manuscript*. Chicago, 1890).

THE FAIRY-TALE ELEMENT IN THE BIBLE.

THE Old Testament is distinguished among the religious books of the world by its soberness, which manifests itself in an obvious absence of fairy-tales. But their absence is apparent only, not real. They are not absolutely missing, but have been introduced either incidentally or in the altered form of stories in which the fairy-tale element has been obliterated. This holds true in the Scriptures, of all folklore. Thus, the only fable which we find in the books of the Old Testament is the story of the trees that elected the bramble as their king, told in Judges ix. 8–15. The tale proves that the authors of the Bible were not entirely unfamiliar with fables, though they scorned to use them. The final redactors were in their way the rationalists and freethinkers of the age, who mercilessly elided everything fantastic and visionary. They admitted, it is true, visions and prophecies, but these mystic notions were commonly accepted at that time and were adapted in the Hebrew scriptures to a rigorous and iconoclastic monotheism.

There are stories in the Bible which can be traced to the fairy-tales of Egypt and of Chaldæa, but in all such cases the polytheistic confusion of paganism was transformed into simple narratives, which were quite credible to the monotheists of that age.

BABYLONIAN COSMOGONY.

By far the most important fairy-tale in the Bible is the hexaëmeron, or the story of the creation of the world in six days, which has been rationalised almost beyond recognition from a polytheistic cosmogony into a monotheistic genesis. It is an ancient myth (for "myth" is the name of a fairy-tale which refers to religious sub-

jects), and its purpose as well as its entire mode of narration has been so radically altered by the Hebrew redactor that no one would think of seeking the source of the hexaëmeron in the old Marduk myth if the evidences were not very positive and without possibility of contradiction.

One of the most important evidences of the historical connexion between the first chapter of Genesis and the Babylonian Marduk myth is the use of the three words *tehom*, *tohu*, and *bohu*.

The word *tehom* is always used without an article, which indicates that it is a name. It signifies the watery deep, which was supposed to lie at the bottom of the world, and is represented by Babylonian mythologers as Tiamat,[1] the big dragon split in twain by the god Bel Merodach, an act by which he divided the watery chaos of the deep into an ocean beneath the earth and another one above the firmament. Dillmann says of the Hebrew word *tehom*:

"It corresponds formally and materially to the Tiamat of the Assyrio-Babylonian legend, conceived of in that legend as a mythological monster."—*Gen.*, Eng. trans., I., p. 58.

The phrase *Tohu va Bhohu* is translated in our Bibles, and has been explained by Hebrew scholars to mean, "void and without form." It is the Hebrew term for Chaos, and it is probable that the word *Bohu* (like *Tehom*) is not Hebrew but Chaldæan. Both names, Tauthe[2] and Baau (Βάαυ), are mentioned by Greek writers as monsters of the deep in Chaldæan mythology.[3]

Damascius, who lived in the sixth century of our era, tells the Babylonian story of the creation as follows:[4]

"The Babylonians, like the rest of the barbarians, pass over in silence the one principle of the universe. They constitute two, Tauthe and Apason,[5] making Apason the husband of Tauthe and calling her the mother of the gods. From them proceeds an only begotten son, Moumis,[6] which I conceive is no other than the in-

---

[1] *Te-hom* = *ti-'am*.

[2] The name is transcribed Ταυθέ by Damascius, and Θαυτέ by Berosus.

[3] Cf. Philo Byblius. See Dillmann, *Genesis*, Eng. trans., Edinburgh, 1897, I., pp. 37 and 58.

[4] *De prim. princip.* 125. P. 384. Edition Kopp.

[5] Ασπασών is the Babylonian *Apsû*, the consort of Tiamat.

[6] Μωυμίς is the Babylonian *Mummu*.

telligible world produced by two principles. From them also other progeny is derived, Lakhe and Lakhos; and then a third one, Kisare and Assoros, from which last proceed Anos, Illinos, and Aos. Of Aos and Dauke is born a son called Belos, who, as they say, is the creator of the world."

The main god of the Babylonians of later days was Bel Merodach, whom Damascius calls Belos. He belonged to the younger generation of the gods, as Zeus did among the Greek deities, and his claim to supremacy is based on the story of his heroic deeds, as told by his special worshippers. The real cause of his rise, however, must have been due to the fact that his worshippers gained the supremacy in the country and had him recognised as the supreme deity. The other older gods became his vassals, and those vague personifications of aboriginal principles which human imagination pictured as huge and awful beings were supposed to represent the raw material from which the world originated. The deities called Lakhe and Lakhos by Damascius are called Luhmu and Lahamu[1] in Babylonian inscriptions. Their significance can no longer be determined, but we must assume that their cult was not limited to Babylonia. A man as conservative and cautious as Prof. A. H. Sayce, says:

"At all events, Lakme (that is Lahamu) seems to be the name of a Philistine in 1st Chronicles, chapter xx., verse 5.[2] And Bethlehem is best explained as the house of Lakhem [viz., Lahamu] like Bethdagon, the house of Dagon, and Bethanoth, the house of Anat."

Whether true or not, the wide dissemination of the Babylonian religion over all Western Asia may be accepted as an established fact.

An important account of the Babylonian creation story by Berosus, a Babylonian priest and a contemporary of Alexander the Great, is preserved by Eusebius, who owes his knowledge of it to Alexander Polyhistor. It is to be regretted that the extracts are not made with impartiality, for the report is quoted for the sole purpose of ridiculing the Babylonian religion. Eusebius says:

[1] The *h* Luhmu and Lahamu is also transcribed *ch* by German scholars and was presumably audible like the German *ch* in *ach*.

[2] Lahmi, the brother of Goliath, the Gittite.

"Long ago, so he (Berosus) says, the universe was darkness and water wherein originated marvellous beings of monstrous shape. There were men with two wings some with four wings and two faces, some having one body and two heads, the one male, the other female, and also of double sex, male and female. There were further men with goats' legs and horns, or horses' feet, or shaped like horses behind and like men in front, of the shape of hippocentaurs. Then there were bulls with human heads, dogs with four bodies ending in fishtails, horses and men with dogs' heads and other monsters having the heads and bodies of horses ending in fish-tails, and many more monsters having the mixed shapes of several animals. There were also fishes and vermin and serpents and all kinds of various shapes. Their pictures can still be seen in the temple of Bel among the votive gifts. The ruler of them all was the female Omorka,[1] which is in Chaldæan "Thamte," and in Greek 'the ocean' (*θάλασσα*), of the same numeral value as 'the moon' (*σελήνη*).[2] Now Bel came finding the world in this condition and he divided this female (monster) in her midst, making of the one half the earth, of the other half the heaven, and destroyed all the beasts which belonged to her.

"This tale, according to him (Berosus), is meant to be an allegorical account of natural processes: The Universe was once a fluid (chaos) and such monsters as described above had originated therein; but Bel, who is the Greek Zeus, split the darkness in the middle and thereby divided it into earth and heaven, thus instituting the order of the universe. The monsters, however, unable to endure the power of the light, perished.

"When Bel beheld the earth without inhabitants and incapable of bringing forth fruit, he commanded one of the gods to cut off his (i. e., Bel's) head and mingle the dripping blood with the earth, thus to form men and animals that should be able to endure the air. Bel also fabricated the stars, the sun, the moon, and the five planets."

Eusebius dwells with special emphasis on the incident of Bel's decapitation. He repeats the story twice, stating the second time that Bel cut off his own head. He says:

"And this is on Alexander Polyhistor's authority as actually related by Berosus: 'This god (Bel) is reported to have cut off his head. Then the other gods are said to have mixed his blood with the earth and formed men, who on this account are possessed of reason and are partakers of divine understanding.'"

---

[1] Ormoka (Ὠρμόκα) is obviously not Chaldæan and must be Aramæan, as which it has been identified with אם ארקא or better אם ארקאי (*om arkaje*) which means "mother of the deep."

[2] The mystical tendency of the time found expression in the identification of words that had the same numerical value, a method which was of course foreign to the ancient Babylonians.

The passage is important, although, being at third hand and having been quoted for the purpose of exposing the myth to ridicule, it must have suffered considerably.

THE CUNEIFORM TABLETS OF THE MARDUK MYTH.

Happily Mr. George Smith discovered among the cuneiform treasures of the British Museum a series of tablets of the Royal Library of Nineveh which contain an original report of the Babylonian creation story. They have been frequently commented upon and translated.[1] In addition to these tablets, fragments of other inscriptions have been discovered which treat of the same subject in a different way. It is therefore by no means necessary that these tablets contain the very same myth to which Berosus and Damascius refer. It is one version only among several of the Babylonian Cosmogony, though having been deemed worthy of being preserved in the Royal Library, it was probably the most authoritative of all.

The meter of the poem is that of the usual verse of Assyrio-Babylonian poetry, each verse consisting of two lines, each line of two half lines, and each half line having two beats.

Here is a translation of the poem mainly on the authority of Professor Zimmern:[2]

The First Tablet.

1. Of yore, when above the heaven was not yet known,
   When below the earth no name as yet bore,
   When still Apsû (the deep) the begetter of both,
   And Mummu[3] Tiâmat (the abyssmal chaos), who bore them both,

[1] George Smith, *Chaldæan Genesis*, p. 62 ff.; Oppert, in Ledrain's *Histoire d'Israel*, Vol. I., pp. 411 ff.; Lenormant, *Les origines de l'hist.*, pp. 494 ff.; Schrader, KAT²., pp. i ff.; Sayce, Hibbart Lectures, pp. 384 ff.; in the *Records of the Past*, new series, Vol. I., pp. 133 ff.; Jensen, *Kosmologie*, pp. 261–364; Pinches, *Babylonian and Oriental Record*, Vol. IV., pp. 25–33.

[2] Published in Gunkel's *Schöpfung und Chaos*. The numbers indicate the lines of the cuneiform inscription as counted by Assyriologists.

Words in brackets indicate passages which are destroyed in the original and have been supplied from the context; words in parenthesis are explanatory additions.

[3] The meaning of Mummu is still doubtful. Zimmern explains it as *abyss*. It is peculiar that the same word serves as the name of the son of Apsû and Tiâmat who is mentioned later on.

Their waters in one together were pouring,
When fields were untilled, and pastures ungrown,
Of yore when of the gods no one had yet risen,
No name was recorded, no destiny [fixed],
Then were created the gods [. . .]
Luhmu and Lahamu came forth [. . .]
Æons developed [. . . . . .]
Ansar and Kisar were created . . .
Long were the days; extended [was the time]
The gods (Anu, Bel, and Ea) were born
Ansar and Kisar [gave them birth].

Here the tablet is broken. There is a gap of sixty to seventy lines, which probably told of the creation of the light, and it seems that the pieces of the following fragments belong here, being a conversation between Apsû and Tiâmat, viz., the Aboriginal Deep and Abyssmal Chaos, in which their son Mummu takes part. The first four lines are greatly mutilated.

Ap[sû] opened his mouth [and spake] . . .
To [Tiâmat], to the glorious one:
"So long as their plan [. . . . . .]
. . . . . [. . . . . .]
Frustrate will I their plan [. . . . .]
Lamentations shall issue, Wailings [shall be heard]."
[. . . . . .] Tiâmat [heard this]
. . . shrieking [she exclaimed] [. . . . . .]
[. . . . . .] [. . . . . .]
[A curse] she uttered [. . . . . .]
"Why shall we [suffer the outrage]? [. . . . . .]
[Their undertaking] shall be impeded."
[Then an]swered god Mummu Apsû his father:
"[I shall be] willing the council [to follow].
[Frustrated be] their plan . . . . . .
[The light] shall be darkened, as night shall it [be again]."
[Listening was] Apsû, joyful grew [his] face,
Evil they were planning against the gods [. . . .]

Here four lines are mutilated. Then follows a gap of about fifteen to twenty lines, and here is probably the place where the description of Tiâmat's rebellion must be inserted,—a passage

:h is three times repeated in the fragments of the poem in our ession:

Tiâmat, mother of the gods, rebelled against them,
A band she collected, wrathfully raging.
To her were turning the crowd of deities,
The Æons, by her begotten, came to her assistance.
The [daylight] they cursed, they followed Tiâmat,
Furious, planning evil, restless day and night;
Ready to fight, raging and raving,
They banded together, they began the combat.
The mother of the deep, the creator of the universe,
She added victory-giving weapons, creating enormous serpents,
With pointed fangs, relentless in attacking;
With venom as with blood she filled their bodies.
Fierce venomous vipers she decked with horror,
She endowed them with power to awe, high she made them [rise];
"Their mere appearance shall [frighten] . . . . . .
Their bodies shall swell to make invulnerable their breasts!"
She created a viper, a fierce serpent, a Lahamu(?),[1]
A Great Day,[2] a mad dog, a serpent-man,
A Pregnant-Days,[1] a fish-man, and a ram,
Carrying relentless weapons, not afraid of battle,
Of haughty mind, invincible to the enemy.

And further, having these eleven, formed in such a way,
And the gods, her sons, having called together,
She raised Kingu, and made him great in their midst:
"The army to lead, that be thy mission!
'Lift arms!' command thou at the commencement of battle!"
To be the first in combat, to be the highest in victory,
She laid in his hand. She placed him on the throne:
"Spells spake I for thee! I raised thee from among the gods,
I gave unto thee lordship over the gods altogether;
High shalt thou be, thou my sole consort;
Great shall be thy name over [the whole universe]!"

---

[1] Lahamu is the same word as that for the goddess mentioned above; but the is here apparently used in a different significance and may have no connexion the former. It may stand for a being that has the same power or quality of amu, the etymology of which word is not yet determined. Assyriologists (so s I know) do not give any explanation of the difficulty.

[2] Great-Day and Pregnant Days are the names of monsters also mentioned in r passages.

She gave him the destiny tablets, placed them on his breast:
"Thy decision be valid, firm stand behests of thy mouth!"
When Kingu was installed, and had obtained divinity,
She ordained for the gods, for her sons, their destinies:
"When you open your mouths, you shall quench the fire,
The lofty one of Kidmuri,[1] the glow shall extinguish."

[END OF THE FIRST TABLET.]

Second Tablet.

The beginning of the second tablet must have contained Ansar's call to arms against Tiamat, which is first sent to Anu and Ea. Both gods refuse, and Ansar now addresses Marduk, repeating a description of Tiamat's rebellion in the same words as those of the last fragment of the first tablet. He says:

"Tiamat, our mother, rebelled against us,
A band she collected, wrathfully raging."

From here the tablet reads as above, to and including the line:

"The lofty one of Kidmuri the glow shall extinguish."

The tablet continues:

[When Marduk heard this, his heart was] very sorrowful,
. . . . . he bit his lip,
. . . . . angry was his soul,
. . . . . his shout [was heard far]
. . . . . [he thought of] giving battle.
[Then he spake to his father:] "Be not afflicted!
[The mother] of the deep thou wilt master,
. . . . . [Tiamat] I shall meet.

Here follow a number of mutilated lines among which only single words can be read at the end of the verses, such as "of the fate," "of his heart," "approach," "be . . . comforted." "of his father," "Ansar," "filled with wailing," "was removed," "the word of thy lip," "of thy heart," "will lead thee out," make bright," "O, thou," "make bright," "O, thou," "of sensible mind," "later on." The tablet continues:

Marduk minded the speech of his father,
In the excitement of his heart he spake to his father:

[1] Obviously Kingu is meant.

"O, Lord of the gods, appointer of the lot (?)[1] of the great gods,
If truly I shall be your avenger,
Tiamat to vanquish, you to save,
Prepare a repast, plentiful be the dinner of destiny.
In Ubsugina[2] altogether joyfully ye shall enter!
With my mouth, even like you, then shall I give my decision.
Not shall be altered whatever I create,
Not shall be unmade, not invalid, the word of my lip!"

(END OF THE SECOND TABLET.)

Third Tablet.

Ansar his mouth thereupon opened,
[To GA-GA], his [messenger], he addressed the word:
"GA-GA, thou messenger, who pleasest my heart,
To Luhmu and Lahamu I shall despatch thee,
The command of my heart shalt thou readily listen to,
. . . . . thy .. . . . . before thee.
[Invite to the repast] the gods all together,
At the table they may [seat themselves] to enjoy the meal,
They may eat bread, they may mix wine,
They may mount their seats to determine the destiny!
[Avaunt thou], O, GA-GA, present thyself to them,
The command which I gave thee make known to them:
'Ansar, your son, has despatched me,
The command of his heart he made me listen to:
Tiamat, our mother, has rebelled against us,
A band she collected wrathfully raging,' etc.

From here, the tablet reads as above, to and including the line:

'The lofty one of Kidmuri the glow shall extinguish.'

I despatched Anu, but he was not willing to meet her,
Nugimmud (the god Ea) was afraid and drew back.

---

[1] The meaning of this word is doubtful. It seems to mean "destiny" or "lot," and should then be interpreted as "allotter," i. e., "one who determines the destiny of," "one who decides the lot of," and in this sense we translate "appointer of the lot." Professor Zimmern translates it *offspring*, or *sprig*. The meaning of "great gods" seems to be the aboriginal powers, Apsu and Tiamat, or Luhmu and Lahamu.

[2] Ubsugina, the Olympus of the Babylonian gods, is the place in which they hold their meetings. See Jensen, *Kosmologie*, pages 238–243. Zimmern, *Zeitschrift für alttestamentliche Wissenschaft*, Vol. XI., 1891, p. 261. Repasts were held in connexion with council meetings and were called dinners of destiny.

I called upon Marduk the councillor of the gods, your sons,
Tiamat to meet, urged him his heart,
He opened his mouth and he spake to me:
'If truly I your avenger shall be,
Tiamat to conquer, you to save
Then prepare a repast, make plentiful the destiny dinner,
In Ubsugina all together joyfully ye shall enter!
With my mouth, even like you,[1] shall I give my decision;
Not shall be altered whatever I create,
Not shall be unmade, not invalid, the word of my lip!'
Therefore hasten and determine for him quickly his destiny,
That he go forth and meet your powerful enemy!"
Then GA-GA went and completed his way,
To Luhmu and Lahamu to the gods, to his parents,
Prostrate he kissed the ground at their feet,
Bowing he rose, and then spake he to them:
"Ansar, your son, hath despatched me,
The command of his heart he made me listen to:
Tiamat, our mother, has rebelled against us,

etc., to the line:

That he go forth and meet your powerful enemy."

Luhmu and Lahamu were listening and they lamented [bitterly].
The celestials all together were woefully wailing:
"How foolish are the Æons! they will bring themselves into durance
Not can we comprehend Tiamat's [undertaking]."
Then they met and went . . .
The great gods all together they determined the [destiny],
They entered into the presence of Ansar, and filled [the hall],
They crowded together in council . . .
They sat down to the table, and enjoyed [the repast],
Bread they ate, they mixed wine,
Of sweet must they partook,
They drank mead, they strengthened their bodies,
Very much . . . they mounted their seats,
For Marduk, their avenger, his destiny to determine.

(END OF TABLET THREE.)

Tablet Four.

Then they placed him upon the royal throne,
In the presence of his fathers, he sat down as their sovereign.

[1] Viz., like Ansar.

"Be thou honored among the great gods;
Thy lot is without equal, thy name is Anu.
Marduk, be thou honored among the great gods,
Thy lot is unrivalled, thy name is Anu.
From this day forward be valid thy command,
Promotion and degradation be placed in thy hand!
Thy word be established, unbroken thy command,
None of the gods trespass upon thy province!
. . . . . .
. . . . . .[1]
O, Marduk, since thou our avenger wilt be,
We give thee sovereignty over the hosts of the universe.
When thou sittest in council, thy word be exalted,
Thy arms be unbroken, may they strike thine enemy.
O, Lord! Who trusteth in thee, his life thou wilt spare;
But the gods who planned evil, pour forth their lives."

They placed in their midst some kind of vesture,
To Marduk, their first-born, they spake thus:
"Thy lot, O Lord, surpasses that of the gods:
Uncreation and creation command thou and be it done.
Upon the opening of thy mouth the vesture shall disappear,
Command again, and the vesture shall reappear!"
Then he commanded with his mouth and the vesture disappeared
He commanded again, and the vesture reappeared.
When such power of his word the gods, his fathers, saw,
They greeted him joyfully: "Marduk be King,"
They presented him a scepter, a throne and a ring,
They gave him a weapon that had not its equal to strike the enemy
"Forward! O thou, who would cut off the life of Tiamat,
Let the wind bear away her blood into hiding-places!"

Thus the Lord determined the lot of his father-gods,
A path of salvation and bliss they made him discover.
He made him a bow, prepared it as weapon,
He armed himself with a falchion,[2] fastening it [to his belt];

[1] The two lines 11 and 12 present special difficulties. Zimmern refers to Belzar in BSS 2, 255 and translates:

'Tis decoration for which all yearn in their temples the gods,
May they be lacking it, in thy place be it rich.

[2] The falchion is the peculiar sickle-sword which we see in illustrations of Marduk. Though it was not a weapon commonly used in antiquity, its shape has been preserved in the legends of ancient Greece where Perseus is still represented

He took the divine thunder-bolt,[1] and made his right hand grasp
Bow and quiver he hung at his side.
He caused lightning to precede his steps,
40. The interior of which he filled with shooting flames.
He had a net, made to catch the monster of the deep,
The four winds he placed round, lest she should escape,
The South wind, the North wind, the East wind, the West win
He bade watch the net, father Anu's gift.
45. He created a hurricane, a storm and a tempest,
The four winds, the seven gales, a whirlwind, a cyclone,
He let loose the winds, which he had created, all seven,
To confound Tiamat, as his lead they followed.
The lord lifted up the storm, his mighty weapon,
50. The chariot unrivalled, the tremendous, he bestrode.
Stepping firmly, four steeds to the chariot he harnessed,
[Horses] unsparing, courageous and swift;
[With pointed] teeth, filled with poison,
[. . . . . .] able to upset,
[On the right] ready for battle . . . . . .
56. On the left [fit to] clear the field before him,
57. . . . . awe-inspiring,
With a dread which overthrows. . . . . .
Straight on he marched, he completed his way,
60. To the place of Tiamat . . . he turned his face,
In his lip . . . . . holding
A poisonous herb . . . clinching in his fingers.

In that hour they looked up to him, the gods looked up to him,
His father-gods looked up to him, the gods looked up to him.
65. Thus the Lord approached, seeking battle with Tiamat,
Searching for the conquest of Kingu, her husband.
When the latter beheld him, his designs were confounded,
His understanding was benumbed, his plans were perplexed.
When the gods, his assistants, who stood at his side,
70. Saw their leader [wavering], their eyes grew obscure.
But Tiamat [resisted], she turned not her neck,

[illegible] the Medusa with a falchion,—one of the evidences that the Perseus lege[illegible] of the Marduk myth, Medusa being Tiamat and Perseus, Bel-Me[illegible]

[1] The divine thunder-bolt is the other peculiar weapon which we find in Me[illegible] it is noteworthy that the same emblem is found in Jupiter's hand[illegible] plainly indicated to represent lightning.

With hostile lip she [announced] opposition:
"With thee, O Lord, the gods take up battle,
[Where] now they are assembled, must be thy place!"[1]
The Lord lifted up the storm, his powerful weapon,
Tiamat for her behavior upbraided he thus:
["Below] thou wast powerful, and above thou wast great,
But thy hea[rt impelled thee] to begin the war.
[The Æons thou mad'st leave] their fathers to join thee;
[Round thee thou mad'st] them [rally], thou rebelled'st against us
[Kin]gu [thou mad'st] thy consort . . .
Thou gav'st to him divine power.
. . . . . [e]vil thou planned'st,
[Upon the g]ods, my fathers, injury thou inflicted'st.
[Therefore fet]tered be thy army, broken be thy weapons;
Give battle! Myself and thou will fight together!"

Tiamat, when she heard these things,
Was greatly perplexed, her reason she lost.
Tiamat shrieked, impetuously rising,
In her deepest viscera all her limbs were shaking.
She uttered a spell, she pronounced a formula,
The gods of the battle let resound their weapons.
Then Tiamet met with Marduk, the councillor of the gods,
They rushed to combat, they approached to do battle.
Then Bel spread his net to entrap her,
The hurricane from behind he let loose on her.
But when she opened her maw, Tiamat [the formidable]
He made enter into her the hurricane, and keep open her mouth.
With such terrible gales her body he filled,
That her consciousness waned, her jaws were agape.
Then he seized his falchion, thrust it into her body,
Cut to pieces her entrails, divided her interior;
He vanquished her, put an end to her life,
Her carcass he threw down, he placed himself upon it.
And thus he had conquered Tiamat, the leader,
Had dispersed her forces, her troops he had scattered;
The gods, her assistants, which stood at her side,

[1] These two lines, according to Zimmern, are spoken by Tiamat, who declares that she with the gods that fight on her side will be ready to take up the battle. Professor Sayce interprets the lines to mean that the gods that join Bel in battle, gather around the place where he stands.

Were trembling and fearful, they turned themselves backward
They fled away, their lives to save,
[But bo]nds ensnared them, there was no escape:
He took them captive, he broke their weapons,
In the net they lay, they sat in its meshes;
They filled all round the world with wailing,
They received his punishment, and were confined in a dungeon
Also the eleven, her creatures, by her cruelty fashioned,
A band of monsters, which stood at her side,
He placed in fetters, [he tied] their hands,
And their resistance he [tr]od under foot.

But Kingu who had pow[er over] them [all],
Him he vanquished and dealt with as with the [other] gods.
He snatched from him the destiny tablets [which hung on] his br[ea
He sealed them with his seal, he hung them on his br[east].
When thus his adversary he had vanquished and conquered,
The proud opponent he had brought to [shame],
Ansar's victory over the fiends he thus completed,
Nugimmud's (Ea's) aim he attained the valliant Marduk,
Then the conquered gods he bound fast in their fetter,
And he turned back to Tiamat, the conquered one,
He trod under foot the body of Tiamat,
With ruthless, merciless weapon he split open her cranium,
He severed and opened the arteries of her blood,
And commanded the North wind to take it to hiding-places.
His fathers beheld this, they rejoiced and were shouting,
Offered gifts of peace, and brought them to him.
Then the Lord was appeased when beholding the carcass,
. . . [he bethought himself] to make an artistic creation.
He cut her in twain (as if she were twins[1]);
One half he took, and made of it the roof of heaven,
He placed there a bar, he stationed there guardians,
To let not her waters escape he enjoined upon them.
The sky he formed to match the Under World,
Opposed to the deep, he made Nugimmud's (i. e., god Ea's) dwellin
Then the Lord measured the dimensions of the deep,

[1] The word here translated *twins* is doubtful. It may mean the weapon wi which Tiamat was cut in twain. If the reading *salme* be correct, it means t constellation *Gemini*, and the sense would be that the two halves into which s was cut were as equal as if they had been twins.

A palace like these he erected Esara (the House of Assembly).[1]
The palace Esara, which he had built as Heaven,
To Anu, Bel, and Ea, gave he as a city to dwell in.

[END OF THE FOURTH TABLET.]

Tablet Five.

He made the mansions for the great gods
As stars like unto them; he fixed the constellations.
He ordained the year, appointed the signs of the Zodiac,
Twelve months with stars, to each three, he assigned.
When the days of the year he had fixed by the stars,
He established [planet] Jupiter's mansion, to mark their boundary,
That none of them[2] should err, nor go astray,
Bel's and Ea's mansions he assigned near him (Jupiter).
Then he opened doors on either side,
He fastened a lock on the left and on the right.
In the middle of the heavens he placed the Zenith.
The moon god he created, that he might be ruler of the night,
He ordained him to be nocturnal, for determining the time,
Month by month he formed him as full moon:
"At the beginning of the month, whenever the evening falls,
With horns thou shalt be bright, to be a sign in the sky.
On the seventh day thy orb shall be [ha]lf,
Be right-angled on the [Sa]bbath, at thy [fi]rst half,
When at the setting of the sun on the horizon thou [risest],
Thou shalt in opposition[3] [on the fourteenth] beam in full brightness.
[From the fifteenth day of the month] approach the course of the sun,
[On the twenty-first] stand at right angles to the sun a second time
[After the twenty-second] seek the sun's path,
[On the twenty-eighth] descend and pronounce judgement!

What follows is broken; it contained the remainder of the story of the creation of the heavenly bodies; and probably also the creation of the dry land and the sea.

The loss of this tablet is the more to be regretted as it must have related the creation of plants and animals, which is briefly alluded to in the next tablet.

[END OF TABLET FIVE.]

[1] Esara, i. e., the "house of assembly," corresponds to he Hebrew הַר־מוֹעֵד "mount of the assembly," viz., of the gods (Isaiah xiv. 13), also called "the holy mountain of God" (Ezekiel xxviii. 14).

[2] Viz., the days. [3] In opposition to the sun.

Tablet Six is entirely destroyed, with the exception of a few words:

"Of the gods when he heard,"

Tablet Seven.

(It is not certain whether the fragment of the so-called Seventh Tablet belongs to this creation story or not.)

Of yore when the gods all together formed [the world],
They created [the heavens], they established [the earth],
They brought forth animated [bei]ngs . . .
Cattle of the fields, beasts of the fields, and creeping things [of the fields
. . . . . to the animate beings . . .
. . . . . with living beings they [filled] the city,
. . . All living beings, all creatures . . .
. . . . . in my whole family . . .
Then the god Nin-igi-azag [created] two small . . .
Among the tot[ality] of living beings he made them glor[ious.]

Another fragment contains the praise of Marduk. (The beginning is broken.)

[God Zi . . . they called him (i. e., Marduk) in the second place,
He who stablishes . . . . . .
Their ways . . . . . .
Not shall be forgotten among men [his glorious deeds]

God Zi-azag they called him in the third place who works purification,
The god of gentle inspiration the lord granting prayers and mercies,
He who brings forth in fulness, who creates abundance,
He who makes plentiful, that which is little,
Whose mild breath we breathe [even] in great tribulation:
May the people proclaim and glorify and may they pay homage to him!

As god Mir-azag in the fourth place, the world should praise him!
Lord of pure conjuration, who quickens the dead,
Who unto the conquered gods showed his mercies,
The yoke, imposed upon the gods, his enemies, he took away,
Who in their place created human beings,
Who, full of mercy, to quicken, possesses the power:
May be stablished, may not be broken, this word of him
In the mouth of the blackheads, whom his hands have created!

God Tu-azag in the fifth place was the magic word in their mouth:
He who through pure conjurations eradicates all evil ones.
God Sa-zu, he who knoweth the heart of the gods; he who looketh into the soul;

He who evil-doers, not alloweth to escape
He who convenes the council of the gods, he who [delighteth] their hearts,
He who subdues the unruly . . . . . .
He who makes right conquer . . . . . .
He who breaks obstinacy . . . . . .
God Zi-si; he who sends [forth the storm] . . . . . .
He who makes sweep by the dust-whirls . . . . . .

God Sug-kur in the sixth place: he who exterminates [the enemy]
He who their conspiracies [frustrates] . . . . . .
He who crushes [all] evil-doers . . . . . .

The tablet is broken off. On the reverse are first a few mutilated lines; then the poem continues:

. . . a star [which appears in the sky]
It may be seized . . . . . .
Because he split up the monster Tiamat . . .
His name be Nibiru, he who stands in the center
To the stars of the heavens he shall ordain their orbits,
Like sheep he should pasture the gods all together!
He should conquer Tiamat, He should press her hard,
For all future generations,[1] for the latest of days,
He should take her without [ransom] remove her from all the ages.
Because he has created the earth, has formed the dry land,
The title "Lord of the Lands" gave him his lordly father,
The names of all the celestial gods he was installed with.

Ea heard this, and his heart grew joyful,
Because to his son these glorious names were given:
"He, like myself, shall be called Ea,
Of all my most binding commands altogether he shall be a herald,
Of all my behests, he shall be a mediator!"
After having given him the fifty names of the great gods,
They gave him fifty more names, they increased his power.
Such things the magistrate[2] should mark and proclaim it,
The wise one, the sage, should take it to heart likewise;

[1] It seems that though the combat between Tiamat and Bel took place in the beginning before heaven and earth was created, that the battle is an event which must be renewed constantly. Perhaps the annual inundations of Babylonia were regarded as a repetition of the struggle; and then, Tiamat and her host stood for everything evil.

[2] This line exhorts the magistrate, i. e., worldly authorities, to mark and proclaim the glory of Marduk, while the next following line addresses the priest.

The father should tell it to his son, and inculcate it,
The shepherd guardian (the king) should open his ear,
That his heart may rejoice in the Lord of the gods, in Mardu[illegible]k
That his land should prosper, and he himself be preserved!
For stablished is his [Marduk's] word, valid is his command, [illegible]
His decision cannot be altered, by any one of the gods.
If his eye is angry, and if he does not turn back,
From his anger and wrath no god is his equal.
He is long-suffering . . . . . .
Sin and crime [he abhorreth] . . . . . .

(The rest is broken off.)

Another creation story written in two languages, Sum[illegible]ro-Akkadian and Semitic-Babylonian, is important, because, like the Bible, it omits Bel's fight with Tiamat and is simpler as well as shorter. It reads as follows:

Obverse.

"Incantation: The holy house, the house of the gods, in a holy place had not yet been made,
No plant had been brought forth, no tree had been created,
No brick had been laid, no beam had been shaped,
No house had been built, no city constructed,
No city had been built, no dwelling made;
Nippur had not been built, E-kura[1] had not been constructed;
Erech had not been built, E-ana[2] had not been constructed;
The Abyss had not been made, Eridu[3] had not been constructed.
The holy house, the house of the gods, its seat had not yet been made,
The whole of the lands were sea.
Then within the sea there originated a stream
In that day Eridu was made, E-sagila was constructed,
E-[sag]ila which the god Lugal-du-azaga[4] had founded within the abyss.[5]

[1] Bel's Temple in Nippur.

[2] The name of the Istar temple in the city of Erech (the modern Warka).

[3] [Now Abu-Shahrein. In the earlier days of its history Eridu was on the shore of the Persian Gulf. The text refers to a sort of heavenly Eridu which corresponded to the earthly one. The heavenly Eridu must have been a reflection of Eden.

[4] Probably one of the names of god Ea.

[5] The present version is by Theo. G. Pinches, *Records of the Past*, VI., pp. 109 ff., revised by a comparison with the translation of Professor Zimmern.

The reverse of the tablet contains a blessing on the city of E-zida, which reads as follows:

Reverse.

". . . . . .

. . . . . .

May thy supreme messenger, Pap-Sukal, counsel the gods;
Nin-akha-kudu, daughter of Ea,
May she make thee glorious with a glorious remedy;
May she make thee pure with pure fire.
With the glorious pure fountain of the abyss purify thou the place of thy path!
By the incantation of Merodach, king of the host of heaven and earth,
May the abundance of the world descend into thy midst!
May thy command be accomplished in time to come!
O E-zida, the glorious seat, the beloved of Anu and Istar art thou,
Mayest thou shine like heaven; mayest thou be glorious like the earth, mayest thou shine like the midst of heaven,
May [the evil spirit] dwell outside of thee!"

A third account (published by Delitzsch) relates a peculiar version of Merodach's fight with Tiamat. Mankind is said to have been oppressed by the dragon, and Bel drew his picture on the sky as a starry constellation. Thereupon he went to meet him in combat and acquire a title to kingship.

YAHVEH'S FIGHT WITH THE DRAGON.

The creation story in the first chapter of Genesis omits entirely even the slightest allusion to Yahveh's struggle with the old dragon and her host. Tiamat, the ruler of the deep, is changed into a watery chaos and in the place of a monster being split in twain we have the more prosaic division of the waters. Nevertheless, the myth of Marduk-Yahveh existed among the people of Israel, for there are several unmistakable allusions to it in the Scriptures. The monsters of the deep are called Leviathan, Behemoth, and Rahab,[1] and the passages in which they are mentioned have been diligently collected by Professor Gunkel. We quote some of them.[2]

[1] The Hebrew *Rahab*, probably corresponds to the Babylonian *rebbu*, a name for Tiamat, mentioned in the shorter account of Bel's fight with the dragon; but the reading of the word is doubtful still.

[2] In all the quotations, which are made from the authorised version, the name Yahveh is restored for "the Lord."

Ezekiel in chapter xxxii. compares Pharaoh to the monster of the deep. He says:[1]

"Son of man, take up a lamentation for Pharaoh king of Egypt, and say unto him, Thou art like a young lion[2] of the nations, and thou art as a whale in the seas: and thou camest forth with thy rivers, and troubledst the waters with thy feet, and fouledst their rivers. Thus saith the Lord Yahveh: I will therefore spread out my net over thee with a company of many people; and they shall bring thee up in my net. Then will I leave thee upon the land, I will cast thee forth upon the open field, and will cause all the fowls of the heaven to remain upon thee, and I will fill the beasts of the whole earth with thee. And I will lay thy flesh upon the mountains, and fill the valleys with thy height. I will also water with thy blood the land wherein thou swimmest, even to the mountains; and the rivers shall be full of thee."

The tale of Yahveh's fight with the monster is such a popular topic that our author is carried away with it. He forgets Pharaoh and speaks of Yahveh's net and the allies of the sea monster, how it was hauled up and cast ashore, how it serves the animals for food, and its blood fills the river.

Another comparison of Israel's enemies to Leviathan is made in a prophecy of Isaiah (xxvii. 1), which reads as follows:

"In that day Yahveh with his sore and great and strong sword shall punish leviathan the piercing serpent, even leviathan that crooked serpent; and he shall slay the dragon that is in the sea."

The same idea is repeated in chapter li. 9–10:

"Awake, awake, put on strength, O arm of Yahveh;
Awake, as in the ancient days, in the generations of old.
Art thou not it that hath cut Rahab, and wounded the dragon?
Art thou not it which hath dried the sea, the waters of the great deep?"

The monster of the deep is not always represented as dead; sometimes it is said to be still alive. Yahveh has tamed it and plays with it.[3]

---

[1] See also Ezekiel xxix. 3–6.

[2] Tiamat is represented on the monuments with the head and claws of a lion.

[3] In the Bible as well as in the Babylonian tablets, the myth is preserved in a double form; in some passages we hear of a complete conquest of the dragon, whose body serves to build up the world and whose blood becomes the rivers of the earth, and then again we are told that Yahveh has merely subdued the monster and plays with him, allowing him to rise from time to time. Compare the footnote to the seventh tablet on p. 421.

In the Book of Job Yahveh argues with Job as to his power over mankind and his privilege to deal with Job as he sees fit. We read (xl.):

"Then answered Yahveh unto Job out of the whirlwind, and said,
Gird up thy loins now like a man:
I will demand of thee, and declare thou unto me.
. . . . . .
Hast thou an arm like God?
Or canst thou thunder with a voice like him?"

Then Yahveh prides himself having "abased Behemoth" and made him "eat grass like an ox" (15). Yet he is a strong beast.

"His bones are as strong pieces of brass;
His bones are like bars of iron."

Leviathan is the dragon whom Yahveh holds with a hook as an angler does a fish. The monster asked for mercy and Yahveh made a covenant with him. Yahveh says to Job:

"Canst thou draw out leviathan with an hook?
Or his tongue with a cord which thou lettest down?
Canst thou put an hook (i. e., a harpoon) into his nose?
Or bore his jaw through with a thorn?
Will he make many supplications unto thee?
Will he speak soft words unto thee?
Will he make a covenant with thee?
Wilt thou take him for a servant forever?
Wilt thou play with him as with a bird?
Or wilt thou bind him for thy maidens?[1]

Gunkel suggests, from a collection of parallel passages, that Yahveh plays with Leviathan, whom he keeps on a hook as an angler does a fish. He lets him go and pulls him up again, which signifies the rise and fall of the tides.

The following verses (8–10) are badly translated in the authorised version. Gunkel translates them as follows:

"Lay thine hand upon him,
Then thou wilt not again think of battle.

[1] The text of the last word of the line is corrupted. Gunkel translates:
"Will you play with him as with a sparrow
And bind him as a dove for a boy?"

Then thy assurance will be seen to be deceit.
Even a god will be cast down at his sight.
[An angel is afraid] to wake him.
Who then is able to stand before him?"[1]
Shall the companions make a banquet of him?
Shall they part him among the merchants?
Canst thou fill his skin with barbed irons?
Or his head with fish spears?"

Leviathan's jaws, like those of Tiamat, are large enough to enter into. Yahveh says:

"Who can open the doors of his face?
His teeth are terrible round about."

The general description of the beast is decidedly mythological:

"By his neesings a light doth shine,
And his eyes are like the eyelids of the morning.
Out of his mouth go burning lamps,
And sparks of fire leap out.
Out of his nostrils goeth smoke,
As out of a seething pot or caldron.
His breath kindleth coals,
And a flame goeth out of his mouth."

The celestials, as in the fight with Tiamat, fear him and, when exposed to his presence, they are like "sinners," i. e., defiled, or as the authorised version has it, in need of purification:

"When he raiseth up himself, the mighty are afraid:
By reason of breakings they purify themselves.
The sword of him that layeth at him cannot hold:
The spear, the dart, nor the habergeon.
He esteemeth iron as straw,
And brass as rotton wood.
The arrow cannot make him flee:
Slingstones are turned with him into stubble.
He maketh the deep to boil like a pot:
He maketh the sea like a pot of ointment.
Upon earth there is not his like,
Who is made without fear.

[1] The monster, though according to other passages slain in the beginning of time by Yahveh, is here still supposed to be alive. Cf. footnotes on pp. 421, 424.

He beholdeth all high things:
He is a king over all the children of pride."

As the conquest of Tiamat constituted Bel Marduk's claim to superiority over the other gods, so the conquest of Behemoth and Leviathan is Yahveh's greatest boast; and Yahveh challenges Job, "Can you do the same?"

The poem is grand, judged as a mythological hymn in the style of the Babylonian cosmogony; but it loses all its poetic strength and becomes trivial anthropomorphism if it is to be accepted as a document of monotheistic theology.

The Psalmist celebrates Yahveh's victory over the dragon. He sings (Psalm lxxiv. 12):

"For God is my King of old,
Working salvation in the midst of the earth.
Thou didst divide the sea by thy strength:
Thou brakest the heads of the dragons in the waters.
Thou brakest the heads of leviathan in pieces,
And gavest him to be meat to the people inhabiting the wilderness.
Thou didst cleave the fountain and the flood:
Thou driedst up mighty rivers.
The day is thine, the night also is thine:
Thou hast prepared the light and the sun.
Thou hast set all the borders of the earth:
Thou hast made summer and winter."

And again (Psalm lxxxix. 5–11):

"The heavens shall praise thy wonders, O Yahveh:
Thy faithfulness also in the congregation of the saints.
For who in the heaven can be compared unto Yahveh?
Who among the sons of the mighty[1] can be likened unto Yahveh?
God is greatly to be feared in the assembly of the saints,
And to be had in reverence of all them that are about him.[2]
O Yahveh God of hosts, who is a strong Yahveh like unto thee?

---

[1] The mighty=Elohim, i. e., gods.

[2] The pen of the priestly redactor is in evidence here. The original idea was obviously that Yahveh is feared in the assembly of the celestials. There would be little glory in the boast that mortal saints fear Yahveh. The idea that there were other gods became objectionable to the monotheist priestly redactor, and so he changed the verse.

Or to thy faithfulness round about thee?[1]
Thou rulest the raging of the sea:
When the waves thereof arise, thou stillest them.
Thou hast broken Rahab in pieces, as one that is slain;
Thou hast scattered thine enemies with thy strong arm.
The heavens are thine, the earth also is thine:
As for the world and the fulness thereof, thou hast founded them.

The evidence is sufficient to prove Professor Gunkel's contention, and there is no need of making our list of quotations complete.

Professor Gunkel, in summing up his results says concerning the references in the Scriptures to Yahveh's fight with the dragon (pages 85–86):

"One passage alludes to Yahveh's arming himself (Isaiah li. 9); another one describes how the heavens were darkened during the struggle (Ezekiel xxxii. 7). A wrathful speech זַעַם which must have preceded the combat is presumably preserved in Psalm lxviii. 30.[2] Yahveh's weapon is the sword (Isaiah xxvii. 1); or the angler's book and cord (Job xl. 1); or again, the book[3] (Ezekiel xxiv. 4); or the net and noose (Ezekiel xxxii. 3). Behemoth is caught by a snare (Job xl. 24).

"Yahveh crushes מָחַץ Rahab (Isaiah li. 9); Job xxvi. 12); he breaks רֹאשׁ the heads[4] of Leviathan (Psalm lxxiv. 14). He takes the dragon from out of the floods and throws him upon the dry land (Psalm lxxiv. 14; Ezekiel xxix, 5 and xxxii. 4), where the monster lies helpless.

"The 'helpers' of the dragon are dispersed זָרָה (Psalm lxxxix. 11; the same expression occurs in Psalm lxviii. 30). They fall down at his feet שָׁחַח (Job ix. 13). Sometimes their heads, too, are broken (Psalm lxxiv. 13). Clinging to the scales of the dragon, they are hauled up together with him and thrown upon the earth (Ezekiel xxix. 5).

"In all details, the fate of the carcas of the dragon is described. His pride is punished in the Psalm of Solomon ii. 30 ff. Even in death he is disgraced נָבֵל (Isaiah li. 9; Job xxvi. 13; Psalms of Solomon ii. 30; רָפָא מָחַל Psalms lxxxix. 11; רָפָא Psalms xliv. 20). The body is not buried (Ezekiel xxix. 5; Psalms of Solomon ii. 31), but is thrown into the desert (Psalms lxxiv. 14; Ezekiel xxix. 5; Ezekiel xxxii. 4), where it is devoured by the beasts (Psalms lxxiv. 14; Ezekiel xxix. 5; Ezekiel xxxii. 6).

"All that is done to the dragon Yahveh did to the ocean. He dried up the sea,

---

[1] Lord God of Hosts=Yahveh, God Zebaoth.

[2] Greatly obscured in the authorised version.

[3] Which had perhaps better be translated "the harpoon."

[4] Leviathan is sometimes represented as having several heads.

the waters of the great תהום Tehom (Isaiah li. 10); he assuaged רגע the sea (Job xxvi. 12); he split it סורר (Psalms lxxiv. 13); he broke up brooks and dried up rivers (Psalms lxxiv. 15); he dried the streams (Ezekiel xxx. 12; cf. Jeremiah li. 36), made them flow smoothly as oil (Ezekiel xxxii. 13 ff.); he made the sea brighter than silver (Psalms lxviii. 31).

"According to another version, the dragon is not slain, but only vanquished. Rahab is pacified רהב המשבת (Isaiah xxx. 7). When God caught the dragon, he behaved gently and became a servant of God; now God has him tied by a ring (Job xli. 2). God plays with him (Job xli. 5; Psalms civ. 26). He lies at the bottom of the sea, but must obey God (Amos ix. 3). He could still become dangerous, therefore God has a guard placed over him (Job vii. 12). According to another view, his strength is taken away by a spell ארר, but those beings who (at Yahveh's command) curse him are able to wake him again (Job iii. 8; Job xli. 2).

"In the same terms, Yahveh's power over the billows of the raging sea is described (Psalms lxxxix. 10). They are assuaged שבח (Psalms lxxxix. 10). The sea is kept under a spell ארר (Jb iii. 8); the spirit of the sea holds the sea tied by a halter (Enoch lx. 16). The bolts of heaven fear him (Job xxvi. 13).

"This compilation shows that the myth was told in many various versions, which proves its popularity. And this is not at all strange, when we consider that the period in which the myth must have been known in Israel, viz., from Amos down to the Psalms of Solomon, comprises more than seven hundred years; and the time during which our references are most frequent, viz., from Ezekiel down, is more than five hundred years."

The applications drawn from these facts are, according to Professor Gunkel, as follows (see page 88):

"Nowhere in the Scriptures that have come down to us the myth of Yahveh's fight with the dragon is told. The collectors of the canon did not incorporate in it all those myths which reminded them too much of paganism. Nevertheless, the way in which the myth is alluded to in all the passages which mention the dragon proves that the subject was well known to the people and very popular. That the myth is missing in the canon may not be regrettable in the interest of the Christian reader, but it is a striking proof that the Old Testament is only a fraction of the ancient religious literature of the Jews.

"The myth was to the Israelites from the beginning a hymn to Yahveh; therefore, the hymns to Yahveh are the place in which the myth of the dragon was cited. A beautiful instance is Psalm lxxxix. Further, the poet who describes the divinity of Yahveh so oppressively awful to man (Job xl. ff; ix, 13; xxvi. 13; cf, Psalms civ), and the prophets, both he who terrifies the sinners with the idea of Yahveh's omnipotence (Amos ix.), and he who comforts the people suffering under a foreign yoke (Isaiah li. 9 ff.),—all these refer to Yahveh's power even over the dragon."

In short, Yahveh's fight with the dragon, so full of mythological incidents, was an objectionable topic to the redactors of the Hebrew Scriptures, who were iconoclasts and monotheistic zealots, but the grandeur and heroic tone, the vivid imagery and poetic loftiness of the ancient myth were too powerful to be entirely obliterated; they left unmistakable vestiges in Hebrew literature which could not be removed even from the priestly canon, which, as it were, was an edition made *in usum Delphini*, not for adults, but for children in an age when mythology was still deemed dangerous because it might reintroduce some of the ancient idolatrous beliefs or practices.

THE SEVEN-ARMED CANDLE STICK AS IT APPEARS ON THE ARCH OF TITUS.[1]

According to Berosus, figures of the monsters of the deep could still be seen in the temple of Bel, and it is not improbable that such things were also found in the temple of Yahveh at Jerusalem. There was a molten sea represented in the temple (1 Kings vii. 23), and the seven-armed candle-stick showed at its base the shapes of monsters which cannot be otherwise explained than by the assumption that they represent Leviathan, Behemoth, and Rahab.

A comparison of the Babylonian creation epic with the first chapter of Genesis leaves no doubt as to their kinship, and the former, being more ancient, must have served as a source of the latter. In spite of radical changes in the religious conception, based

[1] We are too well acquainted with the ancient artists to doubt their faithfulness in copying their model. Accordingly there is little probability of their having invented these monsters. Further, we know from Josephus (*Antiqu.* III., 6, 7) that the ornaments on the seven arms were as they are here represented, consisting of elliptical balls, pomegranates, lily-petaled flowers and small indented cups.

upon a progress from polytheism to a pure monotheism, the historical connexion between the stories cannot be denied. There is a question only as to the mode of transmission and the causes of the various changes in the different versions, and we may state at once that when scholars speak of the dependence of the Hebrew creation story (as told in Gen. i.) upon some Babylonian cosmogony, they do not mean that a Hebrew author had a Babylonian text before him and changed it according to his notions. The process was presumably very slow and the changes gradual. The aversion to mythology and fairy-tale miracles was congenital in the Hebrew mind from an early period, and the tendency to sobriety seems to have prevailed long before the ruthless redactorship of the priestly code cut out the last remnants of fanciful paganism.

THE TWO HEBREW CREATION STORIES.

Even the oldest commentators of the Bible were aware of the fact that the book of Genesis contains two stories of the creation which are plainly contradictory in several details and have been preserved side by side only on account of the reverence in which the final redaction of the Bible was made. The first report runs from Genesis Chapter i. 1 to Genesis Chapter ii. 3; the second begins (Gen. ii. 4) with the words: "These are the generations of the heavens and of the earth when they were created."

Ezekiel (xxviii. 13–14) describes Eden in analogous but different terms as the mountain of God, full of precious stones, and where the tabrets (?) and pipes (?) are wrought in gold. Like Aralu of the Babylonians, it is supposed to be a mountain and is called the holy mountain of God, covered with "stones of fire."

There is no need of dwelling on the difference in the two Genesis accounts, but it is obvious that the second story must have originated or at least been worked out in a country which was geographically different from the country of the author of the first story, the former being Mesopotamia and the latter Canaan. In the first account water is an element that is plentiful. There is a distinction between the waters above the firmament and those below the firmament, and the story begins with a division between

the two. The chaos of an inundation yields to a separation between the land and the waters, just as in the valley of the two rivers the country becomes inhabitable as soon as, under the influence of the sun, the dry land appears. In the second account, however, water far from being a hostile element is regarded as the cause of vegetation and the beginning of life. The country was a desert until a mist came, and the Lord God caused the rain to fertilise the country.

While it is quite probable that some elements of the second account, too, were imported from Babylon into Canaan, we may be sure that it was acclimated to the country by being adapted to the geographical conditions, and we may therefore call it the Canaanite report. It may have existed in some form in Canaan long before Moses. The subsequent description of the Garden of Eden shows decided Babylonian traces. The names of the rivers and also the name Eden are still retained in their Chaldæan form, and the story of the tree of life is obviously the Hebrew version of a similar Chaldæan legend. The essential features of the original significance of the story of the tree of life are apparently obliterated. The contrast between the tree of life and the tree of knowledge, though mentioned, is entirely lost sight of, and only the moral of the story is preserved, which attributes the origin of death and the expulsion from Paradise to the eating of the food of some mysterious tree.

Hermann Gunkel, professor of theology in the University of Berlin, has devoted a special book to the investigation of the problems connected with the first chapter of Genesis and has published it under the title, *Schöpfung und Chaos*. He calls attention to the various mythological features which are still left in the Biblical account. The very beginning, which tells of the brooding of the spirit of God over the waters, is an allegory that is entirely un-Jewish, and the term "spirit of God" never again occurs in this sense in the Old Testament. The Hebrews knew only spirits which fall upon man and work miracles in him; but here the spirit is conceived as a brooding bird, the verb being translated in our Bibles simply by "was upon," and in Luther's German translation by *schwebte*. We have here a reminiscence of the world-egg which needs hatching,—an interpretation of the passage which has been

recognised by Wellhausen and other interpreters of the Old Testament. Dillmann (*l. c.*, I., p. 59) says:

"The fundamental point here is the comparison of the Spirit with a bird (Matt. iii. 16), and there might even be in this the glimmering of a distant reference to the world-egg, only that here the sensuous and gross representation is transfigured into a tender thoughtful figure: as the bird over her nest, so the all-penetrating Spirit of God moves over the primeval waters, producing therein, or communicating to them, vital powers, and so rendering creation possible."

The expression, "the spirit of God brooded," is apparently only a reminiscence; for it has changed its significance, and the chaos brooded upon by the spirit and developing the world by affecting it from within, is changed, in the rest of the chapter, into a creation from nothing, which is performed by a transcendent monotheistic God, who by his fiat effects the successive development of the cosmos from without.

The comparison of God (or, in this special passage, the spirit of God) to a mother-bird remained a favorite idea with the Hebrews, even in the days of their rigid monotheism. Some of the most beautiful passages in the Scriptures speak of Yahveh's protecting wings. The author of Deuteronomy (xxxii. 9–12), not without a palpable recollection of the old polytheistic view that made every god have his own nation, says:

"For Yahveh's portion is his people.
Jacob is the lot of his inheritance.
He found him in the desert land
And in the waste howling wilderness.
He lead him about; he instructed him.
He kept him as the apple of his eye.

"As an eagle stirreth up her nest,
Fluttereth over her young,
Spreadeth abroad her wings,
Taketh them, beareth them on her wings:
So Yahveh alone did lead him,
And there was no strange god with him."

And the prophet Malachi, with an allusion to the Egyptian symbol of the deity as a winged solar disc, speaks of Yahveh Ze-

baoth, the ruler of the stars, as "the sun of righteousness wi[illegible] healing in his wings."

The winged solar disk was sacred to Hor, and his deeds [illegible] salvation are told in a papyrus which has been published by N[illegible] ville,[1] and translated by Brugsch.[2] The sungod Râ Harmakh[illegible] sits in the solar bark, and his son Hor, called Horbehûdti (i. e. [illegible] Hor the sparrow hawk) confounds and overcomes his father's en[illegible] mies in the form of a winged solar disk. The papyrus conclud[illegible] with these lines:

"After this last victory the gods returned to their own country. Harmakhis came in his ship and landed at the Horus Throne (*Tes Her*, Edfû).

"Thoth [the scribe of the gods] spake: 'The darter of rays who came forth from Râ, he conquered the enemies in his form [of a winged sun disc]; from this day he shall be called the Darter of Rays who emergeth from the horizon.'

"Harmakhis spake unto Thoth: 'Set this sun at every place at which I tarry, at the places of the gods in the South Land, at the places of the gods in the North Land, [at the places of the gods] in the Underworld, that it may banish Evil from their vicinity.'

"Thoth set this form at every spot, at every place, how many soever they were, at which any gods or goddesses might be. And this is the winged sun disc which is over the sanctuaries of all gods and goddesses in Egypt, for their sanctuary is also that of Horbehûdti."

Wiedemann in his *Religion of the Ancient Egyptians* adds the following comment:

"Horbehûdti was originally a solar deity, but in the fusion of different cults he came to be represented as subordinate to Râ instead of his equivalent. To him fell the task of conquering the enemies of the Sun, and he accomplished it, traversing the whole of Egypt in company with Râ and always warding off Evil from the king of the gods. It was therefore hoped and believed that he would everywhere and at all times exercise the same beneficent power, and hence the image of the winged sun disc was placed over the entrances to the inner chambers of a temple as well as over its gates, and on stelæ and other objects, as a protection against all harm and especially against destruction.

"Sometimes this emblem is simply a winged sun disc, but we also find it combined with two serpents, one on either side of the disc, which are occasionally crowned with the diadems of Upper and Lower Egypt. They represent the tute-

[1] *Mythe d'Horus*, pls. 12–19.

[2] *Abhandlungen der Göttinger Akademie*, XIV. (1870).

goddesses of the two divisions of the land, whom Horbehûdti had taken with
to the conflict, namely, Nekhebit and Uazit, called by the Greeks Eileithyia
Bûto."

When the Hebrew prophets spoke of "the sun of righteousness with healing (i. e., the power of salvation or redemption from ill) in his wings," they must have thought of God as symbolised the Egyptian winged sun disc.

* * *

The conception of a female spiritual influence which assisted God in maturing the world was revived at the period of transition between the completion of the Old Testament and the beginning of the New Testament literature and shows its restored influence especially in the Wisdom literature and the Old Testament Apocrypha. There wisdom is represented as the spouse of God,—a divine presence that shapes things and reduces the aboriginal chaos to order. We read that "the Lord of all things himself loved her. For she is privy to the mysteries of the knowledge of God, and a chooser of his works."

There is a contradiction between the notion of a world-development by hatching and its sudden appearance at the magic spell of the creative word. But the redactor toned the simile down, so much so that the unsuspecting reader will scarcely notice it.

The Jewish idea of God's creative power, too, has its pagan prototype in the Babylonian cosmogony, where Bel Marduk is endowed by the gods with the power of the magic word, which can call things into existence and make them disappear again.

The idea of a struggling God, who conquers the darkness and the monsters of chaos with great difficulty, has yielded in the account of Genesis to the conception of a Deity who works without effort, simply by giving his commands. Thus Yahveh was conceived by the psalmist, who, in obvious reference to the story of creation, says: "He spake, and it was done."—Psalm xxxiii. 9.

It is noteworthy that according to the Hebrew Genesis the darkness itself has not been created, but is supposed to have existed in the beginning. God created the heaven and the earth, and the darkness was present; and while every work of God is praised

as good, the darkness is mentioned without any such commen— Professor Gunkel says that even here we must recognise a remini— cence of an ancient mythology, apparently of a mythology whi— worshipped a solar deity. Certain, however, it is, that the id— was not derived from Judaism, whose God is expressed in the wor— of Deutero-Isaiah, in chapter xlv. 7, as follows:

"I form the light, and create darkness: I make peace, and create evil: I [illegible] Lord do all these things."

Another feature echoing the modes of thought of a more an— cient tradition may be discovered in the fact that the herbs and trees of the earth are not made by God, but it is the earth which at the request of God causes them to come forth. We may here be confronted by a last reminiscence of the idea of the earth as a mythological being which bears vegetation; and it is natural that this feature should have been preserved, because it appeals to the immediate experience of man, for we see the earth bring forth fresh flowers and leaves, every spring.

The idea that the sun, moon, and stars are lights which govern day and night is typically Chaldæan. The Chaldæans worshipped the stars as mighty rulers. In the first chapter of Genesis, however, they have lost their significance as deities, and have become governors appointed by God to act as viceroys over the domain of the earth. In Deuteronomy iv. 19, we still find the idea that the nations of the earth are distributed among them, and elsewhere the idea is upheld in the Bible that the stars are divine personages; they are called Elohim, or Gods (Isaiah xxiv. 21,[1] and Psalm lxxxii.[2]), which was later on weakened under the influence of a more rigorous monotheism into the term "sons of God" (Job

[1] "The hosts of the high ones on high."—Isaiah.

[2] "In the heavenly assembly, lo! God stands forth,
And the gods there he arraigns."—Verse 1.

"I say: ye are Gods, sons of the Most High are ye all."—Verse 6.

The passages are interesting. Though the stars are addressed as Elohim, the prophet as well as the psalmist prophesies that their rule will come to an end and they must die like mortals.

xviii. 7[1]) and "stars of God" (Isaiah, chapter xiv. 13[2]). How eply ingrained in the minds of the people was this idea of the rs, in spite of being at variance with a rigorous monotheism, pears in the Book of Enoch, chapter 82, where "all the powers the heavens which turn in their spheres" are described and med.

Though the old expressions, that the sun should rule the day d the moon rule the night, are still preserved, the whole conption of the function of the stars as governors has obviously been anged in the story of the creation as given in the Hebrew Genis, for even the slightest tinge of star-worship has been removed ere, and the old idea that the stars *cause* the different seasons is placed by the non-committal expression, added in verse 14, that hey are intended as mere signs. The idea of the stars as rulers, ar from being original with the author of the Hebrew account, is oreign, nay, even hostile, to his conception. He only allowed it to remain in its place where it has now become a mere survival of an ancient astral religion.

The passage in Genesis i. 26 has frequently given offence to Biblical interpreters. God is here understood to say: "Let us create man after our image, like unto us." The plural form has given more trouble to genuine Hebrew scholars than to Christian dogmatists ignorant of the original text; the latter very naturally and ingenuously explaining it as the first indication of the Trinity doctrine. God the Father here addresses God the Son and God the Holy Ghost. Thus the difficulty, in their opinion, is not only surmounted, but we have a half-hidden Scriptural evidence for the truth of the Trinity idea in the Old Testament. That the Christian Trinity doctrine was foreign to the author who wrote these words is, however, obvious to any one who knows a little about Hebrew and the history of the Canon. At present, according to the latest conclusions of textual criticism, such theologians as Gunkel are forced to consider the plural form as an old reminiscence of a polytheistic

[1] "When the morning stars sang together, and all the sons of God shouted for joy."

[2] "I will exalt my throne above the stars of God."

source. The redactor perhaps did not dare to change the wo[illegible] because they were too well known to his readers, and they [illegible] words supposed to have been uttered in this very form by [illegible] himself.

We must assume here that the original source upon which th author of Genesis drew, described an assemblage of the celestials, such as for instance took place in the Book of Job, in 1 Kings xxii. 19–22, Daniel vii. 10, Isaiah vi, Enoch xiv. 22 ff., Revelation vi; and it will be difficult to interpret the plural form of this as well as of other parallel passages (such as Genesis iii. 22, xi. 7, Isaiah vi. 8) otherwise than as spoken in open council, and as summing up a decision at the conclusion of a conference.

Since the plural form "let us" indicates a reference to other persons, we have good reason to believe that the Genesis account omits that part of the narration in which the council of the gods is mentioned. The same gap is noticeable in Genesis iii. 22 and xi. 7, and the easiest and most obvious explanation is that in all three passages the original situation was either directly described or otherwise obvious to the reader, but was changed on account of a change in the religious views of the Hebrew redactor, who held the polytheistic belief in abhorrence. Passages in which other gods or Elohim are mentioned by the side of Yahveh, even as mere inferiors, were too polytheistic for the rigorous and Puritanic authors of the Old Testament. In the original Chaldæan story of the creation we find other deities assisting the chief God by counsel and active help; but this was so utterly un-Jewish that the Hebrew reviser would not brook it in his version, which is adapted to the idea set forth in Isaiah xliv. 24, that "God made all things, he stretcheth forth the heavens alone, and spread abroad the earth himself."

A consideration of the change which the passages of Genesis i. 26, iii. 22, and xi. 7 underwent, indicates the great age of the original copy, features of which are here still preserved. The same may be true of the passage in Job xxxviii. 7, which informs us that the sons of God, though no longer active helpers in the creation, were present as admiring spectators. The redactor of Genesis,

however, has entirely omitted any mention of the angels, which is additional proof that he would certainly not on his own account have introduced other Elohim in addition to Yahveh; but that he only suffered the plural form to remain in spite of its discrepancy with a tendency of other textual changes.

But the words of God quoted above contain one more remarkable survival of pristine paganism. The text reads: "Let us create man after our image, like unto us." The word for image, *tselem*, means at the same time *idol* and a *skiagraph*, or *silhouette*. The word occurs also in Chaldæan, Syriac, and Arabian, being derived from the root צלם, which occurs also in Ethiopian and means "to adumbrate, to shadow." The passage, as probably understood by the redactor and as commonly interpreted now, means that man was made after the likeness of God; but the idea of a spiritual likeness of man to God was foreign to the writer of these lines. Man acquires a spiritual likeness to God by eating of the tree of knowledge, as related in the other report Gen. iii. 22. The word *tselem* denotes idols, viz., statues of the gods, in 2 Kings xi. 18, Amos v. 26, Daniel ii. 31 ff. and iii. 1 ff. Accordingly *tselem* of the Elohim must have had a special connotation as to a definite figure, and we shall probably not be mistaken if we interpret its original meaning as that which the Egyptians call *Ka* or double, viz., the external shape of a person in the form of a statue.

The idea of the double, that is, a likeness or image, is a very important notion among the nations that dwelt on the banks of the Nile as well as in Mesopotamia. The soul of man, the *Ba*, according to Egyptian notions, is his consciousness, but the personality or *Ka* of a man is his form; and the preservation of the latter was aimed at in the preservation of the bodily remains, which led to the embalming of mummies and other funeral rites in Egypt. In addition to the preservation of the mummy, the Egyptians made small statues of their dead, so as to preserve the double of a man in case the mummy might be destroyed.

The *tselems* of the gods were regarded with the same reverence that Roman Catholics still feel for the images of their saints. The idea proposed in Genesis i. 26, is that God intends to make man

after the type of his statue; to use the Egyptian term, after his *K*[illegible] or, using the Chaldeo-Syrian term, after his *tselem*, or idol. Th[illegible] this similarity of man to the *Ka* or double of God does not exclud[illegible] similarity to his more spiritual features, cannot be denied, and th[illegible] it serves in the end the same idea which is to-day expressed by t[illegible]e common interpretation of the verse. But the original meaning w[illegible]s not any spiritual likeness but a bodily resemblance, viz., that m[illegible]n was created after the pattern of the image, i. e., the idol, of th[illegible]e god, after his statue and corporeal shape, which of course was n[illegible] longer countenanced by our Hebrew redactor, who only suffere[illegible] the old version to be retained, together with the words, "like unt[illegible] us," which in the interpretation of the redactor are a simple tautol[illegible] ogy, but originally meant that this idol of the Elohim was like unt[illegible] the Elohim themselves.

The idea that man should have been made after a statue of Yahveh is un-Jewish, on account of the Jewish antipathy to idols; but for that reason the idea that man should have been made after the bodily appearance of God was not deemed an impossibility, for the ancient Hebrews in the periods antedating the prophets thought of Yahveh in the form of a human personality.

We might incidentally remark that it is a natural phase in the history of religion to think of the Deity as being like man, and *vice versa* to think of man as bearing the likeness of the Deity. We know that this stage was reached in Greece in the period of classical antiquity.

The refrain at the end of every day's work, which declares that the work of creation was good, and at least the creation of man very good, savors strongly of anthropomorphism, for it suggests the idea of a possible failure; as a mechanic, when he has finished a piece of work, scrutinises it to see whether he has done it well, so God contemplates his day's labor and comes to the conclusion that it is satisfactory. Such ideas and suppositions were certainly not intended by the redactor, and so we must not believe that they originated in his own mind. He has scarcely understood the significance of the words, and we have therefore good reason to believe

that like so many other anthropomorphic features of the story of the creation,—he simply left them as he found them.

The work of creation being finished, God enjoins vegetarianism on Adam. It is scarcely probable that the omission of animal food in Genesis i. 29, is accidental. God said: "Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat." The behest is repeated for the animal world, and no word is said that animals should serve as food for man. Whether or not a verse especially forbidding the use of animals as food is omitted, it is difficult to say; but Professor Gunkel believes that we are confronted here with a definite tradition as to the original impropriety of animal food, for Isaiah propounds a similar ideal of general peace on earth that will be the age in which the wolf shall rest by the lamb and the panther by the kid.[1] Then, the lion shall eat grass like the cattle. It is not probable, argues Gunkel, that this description originated in the mind of the prophet as an ideal fiction, and as such it would be marvellously strange; however, this figure of speech would be quite comprehensible if we assumed that the author of Genesis i. utilised for his purpose material furnished by a special tradition. And we can scarcely doubt that we are here confronted with the well-known myth of the Golden Age in which slaughter of every kind was unknown. In fact, we may assume that the myth is better preserved in Isaiah than in the first chapter of Genesis; there it is a poetical description full of depth and ideal warmth, but here reduced to a simple behest of God.

The introduction of the Sabbath is commonly regarded by Bible critics as a later addition, which is assumed to have been introduced by a reviser's hand in post-exilic times when the sanctity of the Sabbath was urgently insisted upon by the Jewish law.

The argument of the sanctity of the Sabbath is certainly gross anthropomorphism, for it presupposes that God, after the accomplishment of his labors, must have been tired and that he therefore

[1] Isaiah xi. 6–8. Confer Isaiah lxv. 25.

took a rest, which certainly did not agree with the ancient Jewish conception of the Deity. There is little probability that the redactor invented this feature, and we must therefore deem it probable that it existed in the tradition which he utilised. For these reasons the propositions of those critics who believe that the passage referring to the institution of the Sabbath, including Exodus xx. 11, should be regarded as post-exilic, must be rejected. In fact, we cannot doubt that the Sabbath was a very ancient institution in Canaan and must have existed long before the exile.

Summing up all the arguments, Gunkel comes to the conclusion that the first chapter of Genesis is not the poetical conception of a prophet-poet, but it is *the redaction of a tradition*; and that this tradition dates back to the remotest antiquity. We can recognise a number of features which plainly bear the stamp of a mythological cosmogony, the underlying ideas of which were not in harmony with the notions of the redactor.

The redactor of the first chapter of Genesis was a man imbued with the spirit of a Puritanic monotheism. The priestly revisor adapted an originally pagan (i. e., Babylonian) cosmogony to his own idea of creation, based upon a God-conception which for those days was decidedly rationalistic and critical. He was familiar with one or more of the versions related to the Marduk creation myth, and he utilised it for his pupose, but he adapted the myth to his own, more abstract, more Puritanic, more scientific conviction, in order to set forth those features which he deemed worthy of belief, cutting out the fantastic, the mythological, the polytheistic fairy-tale elements. We may for good reasons call him a prophet of God, but far from being poetical he was critical and sober to a fault. Apparently he was in dead earnest, and instead of being endowed with a grand imagination, he used the pruning-knife freely. Thus, the report of Genesis is a simplified account of a grand and animated ancient myth, full of passion, struggle, and dramatic interest. It has become the *résumé* of a week's labor, an inventory of the products of a workshop, colorless, and painted gray in gray. The antique description of nature animated by gods and demons has yielded to a rationalistic reflexion. And the redac-

tor did his work with thoroughness, leaving only a few relics of the ancient work, which now enable us to recognise its original character. These were left simply because either their mythological significance escaped the redactor, or he was so accustomed to the traditional words of the text that he did not see their implications. How natural it was that he took no offence at them may be gathered from the fact that while more than two millenniums have elapsed since the completion of his work, there are still quite a number of theologians in our pulpits to-day who have not as yet discovered these plainly-written characters which underlie the palimpsest of Genesis.

The account of Genesis, as it now stands, is the product of two religions,—the ancient pagan cosmogony of the brooding world-spirit, which causes the world to be evolved from chaos, and the monotheistic fiat as the principle of the origin of the world.

While the work of the redactor has been that of a ruthless iconoclast, and while the source from which he drew is unquestionably pagan, we must not underrate the significance of this step in the history of religion. The preservation of Genesis, and at the same time the consolidation of the religious thought of the Jews, in the compact form known as the canon of the Old Testament, is not a matter of accident, but a product of historical necessity, and exhibits the intrinsic strength of the Jewish mind and its seriousness in religious matters. True, it was rigid, and sometimes barbarously zealotic, but for the purpose of leading mankind higher and redeeming them from the old conditions of paganism, a step such as was taken by the redactor of first Genesis was needed; and the literary success which he achieved, rendering the product of his work the accepted doctrine for now almost three thousand years, is sufficient evidence of the significance of his aspirations. But while we recognise the religious significance and earnestness of the redactor of older pagan traditions, we must not forget that the original copy, the cosmology of the Marduk myth itself, also deserves our consideration and high respect. Professor Gunkel, himself a theologian, acknowledges the high merit of the redactor of Genesis, but pays at the same time deserved tribute to the pagan poet of the Marduk

myth. The former was imbued with a deeply religious spirit, but the latter with a sincere love of progressive truth. Gunkel says on page 118 of his work, *Schöpfung und Chaos*:

"The theologian will be wise to treat the Marduk myth too with respect, for no one honors his parents by reviling his grandparents. Nevertheless, we estimate the first chapter of Genesis infinitely higher than that old myth. Our concepts of natural science have changed very much from those offered in the first chapter of Genesis, and the Judaistic supernatural conception of God which is presupposed there, is no longer in conformity with our religious piety, nor can it any longer be regarded as the possibly highest belief. Nevertheless, we insist that we still find in the first chapter of Genesis the God in whom we believe. It is still *our* view, while other cosmogonies have become mere interesting antique curiosities. An historical conception can no longer regard the first chapter of Genesis, as did our fathers, as a monument of a special revelation of God which was given to man; but we can still retain the conviction that in the evolution of the Israelitic religion we are confronted with the dispensation of the living God. And it is the indubitable duty of the religious historian to set forth clearly and unmistakably this conviction whenever treating a height that has been reached in history which opens vistas in all directions. The first chapter of Genesis is such a height; it is a landmark in the history of the world, a monument of God's revelation in Israel.

"Genesis i. is the only complete redaction of the myth which has been preserved in Israel. All other passages in the Bible which treat the same subject are mere allusions, reminiscences, and applications. The reason why no other creation myth has been preserved in Hebrew is obvious. This version of Genesis i. because it was fully imbued with the Jewish spirit and was congenial to Judaism has alone survived all other versions."

Gunkel, I repeat, is a theologian and professor of Old Testament history in the University of Berlin. He has made a specialty of the relationship of the Hebrew records to the Assyrian, and his views are respected as sound among his colleagues.

There is no need to deny the revelation of God in the Bible, but we must open our eyes to the truth that God is omnipresent. He reveals himself not only in Genesis, but also in Shakespeare, Goethe, and Darwin. He is ready to reveal himself wherever living creatures are ready to receive him. Natural law permeates nature in all its parts, and the moral significance of the cosmic order can be grasped by the mind, or by the heart, of every one whose intellectual and moral evolution has attained the proper height. God revealed himself in Israel otherwise than he revealed himself in

Greek art, in Indian philosophy, in Roman law, in Teutonic strength, in Chinese patience. In a sense, every nation in the world is the elect people for a certain purpose, or at least can become elect; and as to the future, those will inherit the blessings of the past who show themselves most worthy.

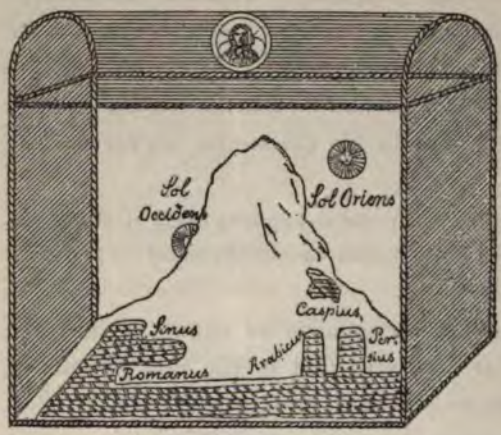
Gunkel, in appreciation of the scientific character of the priestly account of the hexaëmeron, says in his *Commentary on the Book of Genesis*, p. 108:

> "It is no accident that the science of to-day has nothing to say to the creation story in the second chapter of Genesis, but quarrels with the one of the first chapter, for here is spirit of its own spirit."

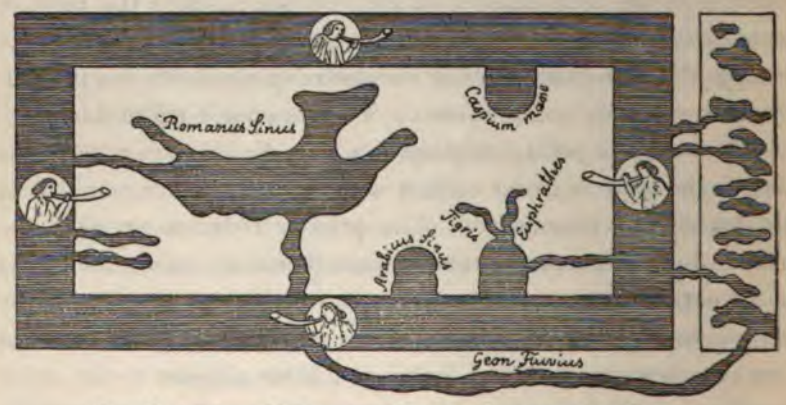
This is true, but for that very reason we cannot agree with Gunkel when he says, that "we still find in the first chapter of Genesis the God in whom we believe. It is still our view." Because it is antiquated science, it is antiquated throughout, while the poetical stories remain poetry and continue to be venerable religious hymns. We have no doubt that there are innumerable men of a religious bent to-day who would in a competitive struggle between the old Babylonian poet of the Marduk myth and the priestly redactor of the first chapter of Hebrew Genesis give the palm of superiority to the former, not only for greater strength, higher sublimity and poetic grandeur, but also for religious depth and its philosophico-scientific comprehension of the cosmological problem.

There is one point, certainly, in which the old pagan traditions have again come in closer contact with modern science and that is the doctrine of immanence. The priestly redactor overshot the mark in his eagerness to establish monotheism by representing God as an extramundane workman who accomplishes his purpose by the magic spell of his creative word. He preserved the ancient view of a development from within as a mere allusion to the spirit brooding over the chaos, and the thought that underlies this simile, implying that in addition to brute matter there is the spirit, i. e., the cosmic order, the influence of natural laws that makes evolution not only possible but even necessary, is not antiquated by monotheism and may serve us as an indication that even the remotest paganism contained valuable germs of truth.

How conservative is mankind! The ideas which underlie the Babylonian myth were not only retained in the Hebrew canon but were also preserved for many centuries of the Christian era. The fathers of the Christian Church did not accept the Ptolemaic doctrine of the sphericity of the earth, but clung to the conception of the sky as a firmament which divided the waters above and below — an idea which was systematised by the monk Cosmas, who had made extensive travels in India and whose book on the shape of the world was accepted as sound by the highest church authorities.[1]



THE WORLD-CONCEPTION ACCORDING TO COSMAS.



THE MAP OF THE EARTH AND PARADISE ACCORDING TO COSMAS.

The idea of the mountain in the middle of the earth is a Babylonian heritage. It is called *Arâlû*, and in cuneiform inscriptions

[1] We here reproduce a sketch of Cosmas' world-picture from Carus Sterne's book *Die allgemeine Weltanschauung*, pp. 25 and 26, and refer our readers to

seems to have originated from the consideration of the difference in the length of the days. In summer the sun circles near the peak, in winter further below, which would cause the nights to become longer and the days shorter.

Beda Venerabilis, who lived 674–735 A. D., and who was one of the most scholarly men of his age, did not change much in the Cosmas world-picture; he drops the belief in the four walls, but still retains the ancient Babylonian notion of a division between the waters above and below the firmament. He says: "The earth lies in the center of the creation, and is the most important part of it. The sky consists of a fine, fiery substance, being vaulted and everywhere of equal distance, like a baldachin spread above the earth. Each day it turns round with incredible velocity, which is somewhat retarded by the resistance of the seven planets above the sun; there are Saturn, Jupiter, Mars, then the sun, and underneath the sun, Venus, Mercury, and the moon. The stars circle in their prescribed courses; those near the north describe the smallest circles. The highest heaven has its peculiar boundary; it harbors the angelic powers which sometimes descend and assuming an ethereal body can attend to human errands and then return. The heaven is cooled with ice-water, lest it be consumed in flames. The lowest heaven is called the firmament, because it divides the waters above from the waters below. The firmament water lies deeper than the heaven of the spirits, but it is above all things corporeal. Some say it will produce a second Deluge, but others believe,—and their view is probably more correct,—that it simply serves to subdue the heat of the fixed stars."

The Babylonian world-view practically retained its hold on mankind until the Copernican system was definitely and finally accepted by the civilised world.

EDITOR.

---

the Rev. Wm. Weber's quotation on the subject from Prof. John Fiske, who aptly compares it to a Saratoga trunk, in the article on "The Resurrection of Christ," in the present number of *The Monist*, pp. 379–380.

LITERARY CORRESPONDENCE.

FRANCE.

THE appearance of a book by M. RIBOT is always awaited with the liveliest interest by the philosophical public. The one which he has given us to-day, *Essai sur l'imagination créatrice*, will be received with no less favor than its predecessors, and the most exacting readers will discover that it contains, even for a simple essay, a wealth of thought and material.

What is the nature of imagination, what elements does it contain, what course does it pursue in its development, and what are the types that it presents,—such are the questions that M. Ribot has undertaken to elucidate. With regard to the first point, he contends, conformably to the theory which dominates his entire work, that the imagination is motor in character, which is to say, that since every perception supposes movements of some degree of intensity, our representations which are the residua of prior perceptions also preserve some motor quality; in other words, that every image contains motor elements which necessarily tend to take objective form. And this outward projection of our images is translated into voluntary acts in the sphere of motion, and into imagination in the sphere of intellect. This theory permits us, as will be seen, to bring under a single point of view two extremely important modes of animate activity, and the great advantage herein involved will not be contested.

It might be proper to add that our nervous centers are sensomotor, having as the correlatives of their reactions psychical states which we call sensations and images, and that the motor elements

are hence always found associated with states of sensibility,—elementary sensibility in the lower stages of life, complex and varied emotional states in the higher stages.

In a dog, in a child, the image of a piece of sugar evokes movements of prehension and gustation; but the image produces these results by virtue of the sensory qualities which are resident in the image itself. The image of some relationship of shading, of some combination of colors, determines the artist to give reality to the images on paper or on canvas; but the motor elements contained in the images would be powerless to give to it external form, if there existed a specific indifference on the part of the tissues and all emotional quality were absent. The emotional element, simple or composite, would appear to be everywhere indispensable; it remains the secret agent of action, whatever the ultimate result may be.

But, as we shall see, M. Ribot actually assigns to this element a considerable part in his analysis of the imagination; he first puts the "intellectual factor" into prominent relief here, that is to say, emphasises the fundamental operations which imagination presupposes, in so far as it borrows its data from consciousness. These two fundamental operations are *dissociation* and *association*, the first of which is the more important, since its office is to disintegrate images and series of images into their elements, which are thus enabled to enter into new combinations. The complete reintegration of the images, on the other hand, would present obstacles to invention; it would fetter that "faculty of thinking by analogy" (be it by *personification* or *transformation*) which is the form of association absolutely indispensable to creative imagination.

M. Ribot then dwells upon the "emotional factor." All the forms of creative imagination, he writes, involve emotional elements; and these elements, which are nothing but "cause" and "accompaniment" in mechanical and practical inventions, become the very material of creative activity in esthetic invention. The emotional dispositions may all exercise an influence upon the imagination,—melancholia, anger, etc., as well as sthenic emotions

(Olzelt-Newin to the contrary). The emotional factor creates new combinations in so far as it unites different states of consciousness by means of the emotional tone which is common to them. Two things, in sum, are necessary to invention: intellectual materials and motor force. There should be added to the above the "unconscious factor," which, to use the language of M. Ribot, consists of intellectual or emotional processes of which the preparatory work is hidden from us; the "organic conditions," and lastly the "principle of unity," the fixed idea or fixed emotion which serves as the bond of every new synthesis.

The examination of these different factors constantly brings up the question of the relations obtaining between imagination and memory, that is to say, the question of the grounds and modes of formation of these new syntheses of images. For the creative imagination demands new material; and the revivifications of memory—M. Ribot lays considerable stress upon this point—are only repetitions. It remains true, nevertheless, and this appears even in his own analysis, that the imagination is always dependent on the wealth of materials at our command and on our vital power.

What, then, do we see in the lower stages of imagination? An automatic play of images. As M. Ribot has admirably shown, the motor elements inherent in the images gives, in the games of animals and children, new products by their spontaneous manifestation simply, and this manifestation is a pure physiological expression. In the higher stages, the "associating power" resides in an ideal, in a sentiment; it expresses itself by a voluntary orientation of the images; but here also the exercise of this power is limited by our existing stock of images or ideas and by our internal energy, by our memory and our temperament,—I might almost say by our "character," if that word did not possess too broad a signification.

Deserving of mention in this part of the work is an excellent chapter on the creation of myths. Among the many trenchant aphorisms which flow from the pen of M. Ribot are the one in which he says that "literature is a decayed and rationalised mythology," and that in which he remarks that "the imagination becomes rationalised in the individual and in the species,"—a formula

which summarises the law of its development. But primarily the point of importance to us is to pursue his exposition of theory, and the question of the relations of the imagination and of memory is now presented to us under the following form, viz., to determine the bond which exists between quality of images and modes of imagining. This is the question which is broached in the third part of the volume which deals with the principal types of imagination.

The variety of the forms of the imagination and the variety of the forms of character, writes M. Ribot, present analogous problems. The reason for these varieties should be sought deep within the individual. Nothing could be more correct, and this is his reason for setting aside at the very outset the distinction which is based upon the preponderance of this or that group of images. The same kind of constructive imagination ought to be able to express itself indifferently in the language of sounds, of colors, of lines, and even of numbers. But this word *imagination* at one time denotes the assemblage of the images and at another the creative activity; and this ambiguity is calculated to lead psychology astray.

It would be just as superficial, continues M. Ribot, to classify the types of imagination according to images as it would be to classify types of architecture according to the materials employed by the architect. The comparison is a striking one; but is it not faulty in view of the fact that it is the individual, the spirit of the inventor itself, that creates the materials? To this objection M. Ribot would reply that the image nevertheless comes *from without*, and the answer is a valid one. The only reservation that I should make at this point is that the same psychical constitution which maintains in me the pre-eminence of this or that system of images may also be the reason why I combine them in a certain fashion which is characteristic of myself; the image would accordingly be in the nature of revelatory symbols of our inmost character, or at least they would contribute to determining our attitude in practice.

M. Ribot indicates two principal types,—*plastic* imagination and *diffluent* imagination. The first, he says, is that in which the materials are sharply defined images bordering on perception and

where associations with objective relations predominate. The se
ond consists more of images that are vague in outline and conjoine
by less rigorous modes of association. In this class the images a
chosen for reasons that are emotional in origin, and their form
and associations present also a marked character of subjectivit
Let us add that this second form is distinct from *idealistic imagin
tion*, with which there is a tendency to confound it; it is a genus
which the idealistic imagination is a species.

I cannot help finding some difficulty here. For if the painter
according to the classification of M. Ribot himself, belong almo
necessarily to the plastic type, and musicians to the diffluent typ
it is impossible to decide whether a given individual is rather
musician or a painter because he possesses a distinctive quality
imagination, or whether, contrariwise, he manifests that qualit
because a definite system of images is predominant in him. Ther
is some uncertainty on this point, whether his vocation, his pe
sonal mark, proceeds from a psychical characteristic having no in
timate relationship with the physiological quality of his memory.

But the esthetic imagination is not the only one which M
Ribot has treated; he has also studied with great care other an
no less interesting forms, like the mystic, the scientific, the prac
tical and mechanical, and the commercial imagination; and finally
what he calls the Utopian imagination. Valuable hints abound i
his work, which we may say is the first to embrace the whole
this vast subject; and I can only regret that I have been able
touch on so few points of its discussion.

---

[1] In a little book called *Memory and Imagination* (1895), to which I may pe
haps be permitted to revert, I undertook to discuss the relations obtaining betwee
imagination and memory; I was careful, however, not to confound types of me
ory with types of imagination, and I endeavored especially to study the uses
which the different images were put in the various classes of individuals which
had selected for study, namely, painters, musicians, poets, and orators. I co
sidered memory as the basis upon which the imagination worked; but I was al
inclined to connect the two a little too closely, and there was doubtless some exa
geration in my formula that "to a given system of images corresponds a giv
manner of imagining," although I included in my "system" emotional and in
vidual, as well as perceptual, images. It will be necessary for me to resume
analysis sometime, profiting by this work of M. Ribot. There is always time f
repentance.

A volume published under the title of *Questions de morale* forms the sequel to the *Morale sociale*, of which I have spoken in a previous number, and contains, like its predecessors, the lectures delivered at the *Collège libre des sciences sociales* by MM. G. SOREL, G. MOCH, DARLU, DELBOS, CROISET, BERNÈS, BELOT, PARODI, FOURNIÈRE, MALAPERT, BUISSON. A great variety of subjects is here treated with unequal felicity. There is nothing more laudable than to labor toward the erection of a sound system of morals, but we should not suffer ourselves to be deluded into being too sanguine as to the success of our undertaking. Like every independent system of ethics, the ethics of the great religions have ultimately sprung from philosophies which offer no more solidity than those freely professed by ourselves. But the philosophies of the religions have been accepted by a common act of faith as the outcome of historical circumstances which it is impossible to reproduce artificially. An ethics independent of dogma can fulfil the office which we expect of it only after having been almost universally accepted; and that hour (I say it without irony) has not yet arrived even among the philosophers. Not having the means for creating the faith which would give to it life, it is necessary to appeal to reason, which is an exceedingly fragile support with the majority of men.

* * *

A work by M. PAUL DUPUY, *Les fondements de la morale*, contains many interesting remarks upon the chief systems of ethics. M. Dupuy does not furnish his readers with a new doctrine, which is something we could not well expect, nor are his conclusions expressed with extraordinary clearness. Everything that might be considered essential has already been said concerning the sources of our moral activity and the historical development of ethics. It appears that the controversy is at present with regard to the attitude of the individual toward society, and while it is true that some schools tend rather to sacrifice the individual to society, it is no less true that certain other schools exaggerate the claims of individualism, and construct their "metaphysics of morals" upon fragile foundations. M. Dupuy avoids extravagances; he is of the opinion, with Mr.

Lester F. Ward, that humanity is something besides pure animality. While actual selection controls biology, sociology on the other hand is the field of artificial selection, and we cannot without rendering ourselves liable to error eliminate from it either will or reason, either belief in liberty or feeling of responsibility. But the task remains to discover the correct state of equilibrium between individual will and social will,—in theory at least, I should add, for the questions are actually resolved in practical life from day to day by sheer force.

* * *

M. J. Novicow, under the title of *La fédération de l'Europe*, has written a most ardent plea in favor of universal peace. He shows this to be not only desirable, but also possible, the way for it having been actually prepared by several positive institutions. In his view, the sociologist is no more chimerical in seeking a remedy for war than the physician is in seeking a remedy for consumption. "Men," he writes, "massacre one another like ferocious beasts because they have certain ideas in their head; if they had other ideas there, they would not massacre one another. All that is necessary to destroy the scourge of war is to extirpate the ideas which are now predominant." It is undoubtedly true that "the ideas of men are continually changing." But the difficulty in the present case is due to the fact that the ideas that give rise to war represent the passions and the desires of men, and that it is much more difficult to educate desires than it is to modify opinions, or even beliefs, which are not bound up with the immediate wants of the human animal. The action of the intellect, nevertheless, is not illusory, and I even think that in the end it will be efficacious, for the reason that societies will ultimately come to understand better the harmony that should obtain between the satisfaction of wants and the morality of acts. M. Novicow possesses so unqualified a faith in the future that he sometimes disposes of obstacles by arguments which are a little too hasty; but this is of little consequence, for upon the whole his book is full of valuable facts and correct thoughts, the perusal of which can only be beneficial.

M. AUGUSTE MATTEUZZI has endeavored in a book translated from the Italian by Mme. Gatti de Gamond, and entitled *Les facteurs de l'évolution des peuples*, to indicate the "part which the physical and terrestrial environment and the heredity of acquired characters play in the evolution of the peoples." The action of the environment and the reaction of the individual are, he writes, the two factors whose combined agency renders biology an extraordinarily complicated science,—a complexity which is still further augmented in sociology because of the influence of each generation upon the one which follows it. Neither the statistical method nor the anthropological method nor the theory of society as an organism is alone sufficient to resolve the problem. The criticisms are good, but has not M. Matteuzzi overreached himself when, adhering to the general views of the geographical school as completed by those of biology, he fancies he is able, by means of the two factors environment and heredity to fathom the secrets of the evolution and the dissolution of societies? Is he not obliged at every successive moment in his examination of the civilisations he is studying to explain the modifications of acquired characters whose transmission would be helpful or harmful, by recurring to facts of an entirely different order, by invoking "laws" in which elements are involved which it would be impossible to neglect? In short, the objection which I should make to the doctrine of M. Matteuzzi, as to the majority of sociological systems, is that they all labor under the illusion that one or two factors are sufficient to explain history; whereas the true scientific method always is to endeavor to ascertain how facts and aggregates of facts vary as functions of one another, with a view to discovering the law of their simultaneous or successive variations in so far as such an object is realisable with any degree of certainty.

* * *

Mention is still to be made of the second edition of the *Oeuvres philosophiques de Leibnitz*, which was the work of the late lamented PAUL JANET and the last legacy bequeathed to philosophy by this conscientious master; of a serious production by M. MAUXION entitled *L'éducation par l'instruction et les théories pédagogiques de Her-*

bart; of a work by M. HERVE BLONDEL, *Les approximations de la vérité*, which expounds with sincerity a conception of philosophy that is derived from Comte, as modified by the principles which dominate the criticism of M. de Roberty; and an attractive book by M. G. LECHARTIER, on *David Hume*.

Les variétés philosophiques of M. DURAND (DE GROS), a new edition, revised and augmented, of a collection of articles published by him in 1871 under the title of *Ontologie et psychologie physiologique*, is the last volume that we shall have from this eminent scholar and writer; he died in November of last year on his estate at Rodez, where he pursued to the advanced age of seventy-four years the arduous occupation of an agriculturalist, though without relinquishing his pursuit of science and philosophy. Physiologist, anthropologist, and logician, he left his mark on everything that he touched. It is not my purpose to write a biographical notice of him here, but I could not close my present correspondence without recording the expression of my sympathy and sorrow for this valiant writer, whose genius remained young and whose heart continued ardent, despite the many injustices to which he had been subjected.

LUCIEN ARRÉAT.

PARIS.

DISCUSSIONS.

THE GOLDEN BOUGH.[1]

The Golden Bough is one of the most interesting books ever written. Prof. J. G. Frazer, the author, is ingenious and his style fascinating; but the subject with which he deals is so difficult and intricate that we should be prepared, not to gauge the worth of his work by the tenableness of its main contentions, but by other merits which at first sight may seem to be incidental.

We have before us the second edition of the work which is considerably enlarged and consists of three stately volumes, each of nearly 500 pages. The first edition appeared in 1890 and the author offered his work to the public as an hypothesis only, with becoming reserve, declaring himself ready to "acknowledge and retract his error as soon as it was brought home to him." He propounded his theory "as a first attempt to solve a difficult problem and to bring a variety of scattered facts into some sort of order and system."

Now we do not doubt that Professor Frazer has actually succeeded in "bringing a variety of scattered facts into some sort of order and system." Further we grant that the presentation of the subject, upon the whole, enables the reader to distinguish between the facts which are here collected and the theory that is supposed to interconnect and explain them, but Professor Frazer's main contention seems to us to be built upon sand. We make this statement with reluctance for we think it a great pity that the erection of this wonderful structure should be vitiated by a fault in its cornerstone, which goes far to condemn the whole building. The redeeming feature of the book, if we are not utterly mistaken, is that the leading idea contains a great truth which with certain modifications and restrictions, as we would venture to prophesy, may be regarded as fairly well established by the facts collected in this voluminous work.

When we say the book is *ingeniosius quam verius* we believe we characterise its most salient feature, for although the author displays a certain looseness of

---

[1] *The Golden Bough.* A Study in Magic and Religion. By J. G. Frazer, D. C. L., LL. D., Litt. D., Fellow of Trinity College, Cambridge. Second edition, revised and enlarged. In three volumes. London: Macmillan and Co., Limited. New York: The Macmillan Company. 1900. Price, $12.00

logic in his arguments, he is always entertaining, always interesting, and he has adduced an overwhelming mass of instructive material. Moreover the subject is of intensest importance to us, being related to one of the central ideas of Christianity, the doctrine of a dying and resurrected God.

After these general remarks, let us now consider the book itself. The title is mystifying to the uninitiated and calls for special explanation. It refers to the golden bough which, according to Virgil, is needed as a passport for mortals still in the flesh and living to descend into Tartarus. We read in the *Æneid*, VI., lines 136 ff.:

"Accipe quæ peragenda priùs. Latet arbore opacâ,
Aureus et foliis et lento vimine ramus,
Junoni infernæ dictus sacer: hunc tegit omnis
Lucus, et obscuris claudunt convallibus umbræ.
Sed non antè datur telluris operta subire,
Auricomos quam quis decerpserit arbore fœtus.
Hoc sibi pulchra suum ferri Proserpina munus
Instituit. Primo avulso, non deficit alter
Aureus; et simili frondescit virga metallo.
Ergò altè vestiga oculis, et ritè repertum
Carpe manu: namque ipse volens facilisque sequetur,
Si te fata vocant; aliter non viribus ullis
Vincere, nec duro poteris convellere ferro."

["Mark what first must be done. In a shady tree there is hidden a golden bough, golden both in its leaves and limber twig, and sacred to Juno Inferna: the whole grove covers it and the shadows of dark valleys shroud it. But one is not allowed to descend into the underworld before one has plucked from this tree the golden sprig. This has fair Proserpina arranged as a gift for her; and whenever it be plucked a new one will grow and the twig will blossom with the same metal. Therefore search with your eyes high [for the bough], and, when found, pluck it in the right way with your hand. For voluntarily and easily will it follow you if fate calls you; otherwise you could not succeed with any power nor tear it off with your strong sword."]

The nature of this bough is explained in the old copy of Virgil from which I quote as follows:

"This is considered by some a mere fiction of the poet, but probably it is founded on some historical fact, or refers to some fabulous tradition, which it is not easy to find out. Servius thinks it alludes to a tree in the midst of the sacred grove of *Diana*, not far from Aritia, a city of Latium, where, if a fugitive came for sanctuary, and could pluck a branch from the tree, he was permitted to fight a single combat with the priest of her temple, and if he overcame him, to take his place."

The commentator Servius refers to an institution which was as strange as it was ghastly and is alluded to by other authors, Pausanias, Suetonius, and Strabo. Turner has painted a landscape of the Lake of Nemi, "Diana's Mirror" as it was

called by the ancients, and a beautiful heliogravure of this picture serves as a frontispiece to Frazer's work, who speaks of it as follows:

"In antiquity this sylvan landscape was the scene of a strange and recurring tragedy. On the northern shore of the lake, right under the precipitous cliffs on which the modern village of Nemi is perched, stood the sacred grove and sanctuary of Diana Nemorensis, or Diana of the Wood. The lake and the grove were sometimes known as the lake and grove of Aricia. But the town of Aricia (the modern La Riccia) was situated about three miles off, at the foot of the Alban Mount, and separated by a steep descent from the lake, which lies in a small crater-like hollow on the mountain side. In this sacred grove there grew a certain tree round which at any time of the day, and probably far into the night, a grim figure might be seen to prowl. In his hand he carried a drawn sword, and he kept peering warily about him as if every instant he expected to be set upon by an enemy. He was a priest and a murderer; and the man for whom he looked was sooner or later to murder him and hold the priesthood in his stead. Such was the rule of the sanctuary. A candidate for the priesthood could only succeed to office by slaying the priest, and having slain him, he retained office till he was himself slain by a stronger or a craftier.

"The post which he held by this precarious tenure carried with it the title of king; but surely no crowned head ever lay uneasier, or was visited by more evil dreams, than his. For year in year out, in summer and winter, in fair weather and in foul, he had to keep his lonely watch, and whenever he snatched a troubled slumber it was at the peril of his life. The least relaxation of his vigilance, the smallest abatement of his strength of limb or skill of fence, put him in jeopardy; gray hairs might seal his death-warrant."

The priest of the grove of Nemi, accordingly, was a fugitive from justice, or a runaway slave. He bore a high-sounding title and may even have enjoyed an allowance for a living or certain priestly emoluments on the sole condition that he could be dispossessed by any other fugitive who slew him to take his place. Macaulay's lines,

> "Those trees in whose dim shadow
> The ghastly priest doth reign,
> The priest who slew the slayer,
> And shall himself be slain—"

have become the motto with which Professor Frazer adorns the first chapter of his book on the golden bough. Following the local tradition of the later Roman empire our author connects the king of the grove with Orestes. He says:

"I begin by setting forth the few facts and legends which have come down to us on the subject. According to one story the worship of Diana at Nemi was instituted by Orestes, who, after killing Thoas, King of the Tauric Chersonese (the Crimea), fled with his sister to Italy, bringing with him the image of the Tauric Diana. The bloody ritual which legend ascribed to that goddess is familiar to clas-

sical readers; it is said that every stranger who landed on the shore was sacrificed on her altar. But transported to Italy, the rite assumed a milder form. Within the sanctuary at Nemi grew a certain tree of which no branch might be broken. Only a runaway slave was allowed to break off, if he could, one of its boughs. Success in the attempt entitled him to fight the priest in single combat, and if he slew him he reigned in his stead with the title of King of the Wood (*Rex Nemorensis*). Tradition averred that the fateful branch was that Golden Bough which, at the Sibyl's bidding, Aeneas plucked before he essayed the perilous journey to the world of the dead. The flight of the slave represented, it was said, the flight of Orestes; his combat with the priest was a reminiscence of the human sacrifices once offered to the Tauric Diana. This rule of succession by the sword was observed down to imperial times; for amongst his other freaks Caligula, thinking that the priest of Nemi had held office too long, hired a more stalwart ruffian to slay him; and a Greek traveller, who visited Italy in the age of the Antonines, remarks that down to his time the priesthood was still the prize of victory in a single combat."

In order to explain this strange institution of a bloody priesthood at Aricia, Professor Frazer ransacks all the reports of anthropology and folklore and comes finally to the conclusion that "the priest of Aricia—the king of the wood" is "an embodiment of the tree spirit," and he infers "from a variety of considerations that at an earlier period one of these priests had probably been slain every year in his character as an incarnate deity." But, adds our author: "for an undoubted parallel to such a custom of killing a human god annually I had to go as far as ancient Mexico."

Now, with all deference to the learning of Professor Frazer we cannot discover any connexion between the fugitive slave at Aricia and the cannibalism of the ancient Mexicans who deemed it necessary that their god be slain and eaten in holy communion. First of all the identification of Virgil's golden branch with the green bough of the tree in the grove of Aricia is merely an assumption of Servius, for which, even if it were not inadmissible for other reasons, would prove nothing toward making the fugitive slave the incarnation of a tree spirit, which was slain annually. We might as well argue that the fugitive slave, as soon as killed, was in a primitive age devoured by his successor. Secondly, the identification of the king of the grove with Orestes is a late invention and absolutely without value as material for the explanation of the strange custom.

Mr. Andrew Lang in a recent review of *The Golden Bough* offers a very simple explanation of the Arician tree and its ghastly priest. He says:

"I would venture to suggest that the grove near Aricia may have been an asylum for fugitives. . . . But an unlimited asylum of fugitives was an inconvenient neighbour to Aricia. Hence (it is physically conceivable, but I lay no stress on it) the asylum was at last limited to one fugitive slave at a time. . . . Any fugitive slave who took the sanctuary had to kill and dispossess the prior occupant. In

any case the one solitary duty of the ghastly priest (as far as we know) was to act as *garde champêtre* to one certain tree. Why this one tree, we do not and cannot know. . . . But this affair of the tree and its inviolate branches is isolated, unless we regard the tree as a taboo tree. . . . Then, why had his would-be successor to break a bough before fighting? Obviously as a challenge, and also as a warning. The priest in office was to 'have a fair show'; some 'law' was to be given him." . . . The sacred and priestly character of a runaway fighting slave does not, to me, seem pronounced. We know not that he ever sacrificed. . . . 'He prowled about with sword drawn, always on the look out.' (*Strabo*, v., 3, 12.) That is all!"

If the guardian of the Arician tree had been a genuine priest, he might easily have saved his life by giving up his priesthood, which can scarcely have been a desirable position to hold. But it seems that he could not run away from the sanctuary without exposing himself to the punishment fixed by the law upon the crime on account of which he had become a fugitive. The whole institution accordingly seems to have been a clever device to get rid of the most dangerous elements among the unruly classes, by allowing one of them to live in safety from the law provided he remained the only one and would kill all others. It was a method of driving out devils by Beelzebub.

We are inclined to accept Mr. Andrew Lang's explanation of the Arician priesthood, which serves to corroborate our opinion that Professor Frazer is mistaken in his main contention. His arguments appear to be loosely woven, not only in this special case, made by him the basis of his investigation, but also in other instances, which by force of his favorite idea he has connected with the institution of the Arician priesthood. But this fault is to a great extent not the fault of the author, but of the immature state of our knowledge concerning all anthropological questions. Folklore and all kindred topics are still in their infancy, and the representative workers in this field are still groping in the dark as pathfinders in an uninvestigated wilderness.

Folklore was less developed in antiquity than it is now and it goes without saying that the commentator's association of the golden bough with the tree of the Arician priest possesses no more weight than the etymological explanation of ancient scholars, who derived, e. g., the word Heracles from the name of the goddess Hera and κλῆς=glory. Virgil's golden bough may prove to be the poet's own invention, but if he referred to a definite popular tradition, it must have been to a tree which stood in some relation to death or immortality, and that can have been only "the tree of life." In the Nimrod Epic a plant is mentioned that is called in the cuneiform tablets *sību-iss ahir-amêlu*,[1] which means "(though) aged, man was rejuvenated." Through the possession of this plant, the hero can return to life and restore the vigor of his youth. Ezekiel speaks of Eden, the place in which the tree

---

[1] Haupt, *Nimrod Ep.*, Z. 267. Cf. Alfred Jeremias, *Die babyl-assyr. Vorst. vom Leben u. d. Tode.*

of life grew, as a mountain full of precious stones of every description and abounding in minerals, shining like fire, and the apples of the Hesperidæ as well as those of Iduna were said to be of gold. It is accordingly quite probable that Nimrod's plant too was golden and may be regarded as identical with the golden bough that was indispensable for Æneas's descent to Tartarus.

While Professor Frazer, in our opinion, is wrong in his special contention, still the general drift of his inquiry is plainly in the right direction. His theory of the belief in the dying and resurrected god, though presumably inapplicable to the Arician slave priest, is in itself not wrong and seems to have been at a certain stage of the religious development of mankind a natural phase which produced various customs and superstitions, finding expression in the myths of Tammuz, Adonis, and kindred topics, and also in the cannibalism of ancient Mexico. The passage treating this special topic is of sufficient interest to be quoted in full. Professor Frazer says:

"Certainly nowhere does the custom of killing the human representative of a god appear to have been carried out so systematically and on so extensive a scale as in Mexico. 'They took a captive,' says Acosta, 'such as they thought good; and afore they did sacrifice him unto their idols, they gave him the name of the idol, to whom he should be sacrificed, and apparelled him with the same ornaments like their idol, saying that he did represent the same idol. And during the time that this representation lasted, which was for a year in some feasts, in others six months, and in others less, they reverenced and worshipped him in the same manner as the proper idol; and in the meantime he did eat, drink, and was merry. When he went through the streets the people came forth to worship him, and every one brought him an alms, with children and sick folks, that he might cure them, and bless them, suffering him to do all things at his pleasure, only he was accompanied with ten or twelve men lest he should fly. And he (to the end he might be reverenced as he passed) sometimes sounded upon a small flute, that the people might prepare to worship him. The feast being come, and he grown fat, they killed him, opened him, and eat him, making a solemn sacrifice of him.'[1] For example, at the annual festival of the great god Tezcatlipoca, which fell about Easter or a few days later, a young man was chosen to be the living image of Tezcatlipoca for a whole year. He had to be of unblemished body, and he was carefully trained to sustain his lofty part with becoming grace and dignity. During the year he was lapped in luxury, and the king himself took care that the future victim was apparelled in gorgeous attire, 'for already he esteemed him as a god.' Attended by eight pages clad in the royal livery, the young man roamed the streets of the capital day and night at his pleasure, carrying flowers and playing the flute. All who saw him fell on their knees before him and adored him, and he graciously

[1] Acosta, *History of the Indies*, Vol. II., p. 323 (Hakluyt Soc. 1880). I have modernised the spelling. Cp. Herrera, *General History of the Vast Continent and Islands of America*, trans. by Stevens, III., 207 et seq.

acknowledged their homage. Twenty days before the festival at which he was to be sacrificed, four damsels, delicately nurtured, and bearing the names of four goddesses, were given him to be his brides. For five days before the sacrifice divine honors were showered on him more abundantly than ever. The king remained in his palace, while the whole court went after the destined victim. Everywhere there were solemn banquets and balls. On the last day the young man, still attended by his pages, was ferried across the lake in a covered barge to a small and lonely temple, which, like the Mexican temples in general, rose in the form of a pyramid. As he ascended the stairs of the temple he broke at every step one of the flutes on which he had played in the days of his glory. On reaching the summit he was seized and held down on a block of stone, while a priest cut open his breast with a stone knife, and plucking out his heart, offered it to the sun. His head was hung among the skulls of previous victims, and his legs and arms were cooked and prepared for the table of the lords. His place was immediately filled up by another young man, who for a year was treated with the same profound respect, and at the end of it shared the same fate.[1]

"The idea that the god thus slain in the person of his representative comes to life again immediately, was graphically represented in the Mexican ritual by skinning the slain man-god and clothing in his skin a living man, who thus became the new representative of the godhead. For example, at an annual festival a woman was sacrificed who represented Toci, the Mother of the Gods, or the Earth-goddess. She was dressed with the ornaments, and bore the name, of the goddess whose living image she was believed to be. After being feasted and diverted with sham fights for several days, she was taken at midnight to the summit of a temple, and beheaded on the shoulders of a man. The body was immediately flayed, and one of the priests, clothing himself in the skin, became the representative of the goddess Toci. The skin of the woman's thigh was removed separately, and a young man who represented the maize-god Cinteotl, the son of the goddess Toci, wrapt it round his face like a mask. Various ceremonies then followed, in which the two men, clad in the woman's skin, played the parts respectively of the god and goddess.[2] For example, when the principal victims had been slain, their blood was offered to the representative of the maize-god in a vessel decked with feathers. This he tasted, bending over the vessel and dipping his finger in the blood while

---

[1] Sahagun, *Histoire générale des choses de la Nouvelle Espagne* (Paris, 1880), pp. 61 et seq., 96-99, 103; Acosta, *History of the Indies*, Vol. II., p. 350 et seq. (Hakluyt Society); Clavigero, *History of Mexico*, trans. by Cullen, I., 300; Brasseur de Bourbourg, *Histoire des Nations civilisées du Mexique et de l'Amérique Centrale*, III., 510-512; Bancroft, *Native Races of the Pacific States*, II., 319 et seq. The sacramental banquet on the flesh of this dead god has been already noticed (Vol. II., p. 342 et seq.). For other Mexican instances of persons representing deities and slain in that character, see Sahagun, pp. 75, 116 et seq., 123, 158 et seq., 164 et seq., 585 et seq., 589; Acosta, II., 384 et seq.; Clavigero, I., 312; Brasseur de Bourbourg, III., 517 et seq., 519 et seq., 527 et seq., 529 et seq., 535 et seq.; Bancroft, II., 325 et seq., 337 et seq.

[2] Sahagun, pp. 18 et seq., 68 et seq., 133-139; Brasseur de Bourbourg, III., 523-525; Bancroft, III., 353-359; E. J. Payne, *History of the New World called America*, I., 470 et seq.

he uttered a loud and doleful groan, which caused all that heard it to shudder and quake. At the same moment, as the Indians firmly believed, a tremor ran through the earth itself.[1] Again, at the annual festival of the god Totec, a number of captives having been killed and skinned, a priest clothed himself in one of their skins, and thus became the image of the god Totec. Then wearing the ornaments of the god—a crown of feathers, golden necklaces and ear-rings, scarlet shoes, and so forth—he was enthroned, and received offerings of the first-fruits and first flowers of the season, together with bunches of the maize which had been kept for seed.[2] Every fourth year the Quauhtitlans offered sacrifices in honor of the god of fire. On the eve of the festival they sacrificed two slaves, skinned them, and took out their thigh bones. Next day two priests clothed themselves in the skins, took the bones in their hands, and with solemn steps and dismal howlings descended the stairs of the temple. The people, who were assembled in crowds below, called out, 'Behold, there come our gods.'"[3]

We repeat, Professor Frazer's book is of great interest and the general drift of his investigations tends in the right direction. The subject is of intense importance because it stands in close connexion with one of the central dogmas of Christianity and indicates a connexion of the Pauline conception of the Lord's Supper with the ancient cannibalism of prehistoric and savage institutions. P. C.

THE NEW INTERNATIONAL PSYCHOLOGICAL INSTITUTE AT PARIS.

The international point of view, which has yielded such beneficent results in so many scientific undertakings, has not been applied as yet to the new science of psychology, which, from the practical and moral advantages now being derived from it, is more and more acquiring a unique position in the economy of human effort.

During the International Psychological Congress held at Paris in August last year, the presidents of the Congress, MM. Th. Ribot and Charles Richet, MM. Tarde, Flournoy, Myers, and other members of the committee, presented to the psychologists assembled from all civilised countries the project of a new scientific organisation to be called the International Psychical Institute,—a name which since the actual organisation of the institute has, for good and sufficient reasons, been changed to that of the International Psychological Institute.

The object of this Institute will be the introduction of the international principle into psychology, a science which is now unquestionably more in need of it

---

[1] E. J. Payne, *op. cit.*, I., 470.

[2] Sahagun, p. 584 et seq. For this festival see also *id.*, pp. 37 et seq., 58 et seq., 60, 87 et seq., 93; Clavigero, I., 297; Bancroft, II., 306 et seq.

[3] Clavigero, I., 283.

than any other. The work in psychology is at present being carried on in the different countries according to special and peculiar methods, which are mostly quite foreign to one another; and the important questions which have presented themselves in this science are consequently but rarely studied in a harmonious and many-sided manner. To remedy this manifest deficiency an international center is required, which will be at once a center of information, of instruction, and experiment.

On the side of instruction, the Institute would enjoy the great advantage of being able to offer a comprehensive survey of mental and psychological science from the point of view of its various component branches and sections, such as physiology, anatomy, pathology, experimental psychology, hypnotism, criminology, and sociology. This view of the entire province is exceedingly important. The scientists of the different countries will find all the various experimental methods united here, and this fact will certainly have influence on their subsequent researches. The organisation of the Institute will involve the establishment of a psychological museum, a library, a working bibliographic department, courses of lectures by the psychologists of the different countries, special as well as popular in nature, and finally the maintenance of a bureau of information for the convenience of members. The Institute will form a common meeting-ground for laborers in the field of psychology, and will permanently fulfil one of the most important objects of the Congress itself,—that of establishing personal relations between the representatives of the different fields and methods of work.

But altogether apart from this aspect of the question, the Psychological Institute will offer many advantages from the more special point of view of psychological study and experiment, on the principle that it is by the efforts of individual investigators alone that the science has advanced. The Institute had decided to make a point of fostering individual researches, either by procuring for scientists special laboratories hitherto not existing, or by furnishing them with subsidies for concluding work which has been adjudged valuable. The present difficulty in procuring anatomical materials is sufficient proof of the advantages which the Institute would offer in this regard.

In social and criminal psychology the utility of an institute of this kind is no less evident. Questions such as the confinement of prisoners in individual cells, now exclusively studied from the point of view of criminology, would gain much by being studied from the psychological point of view. The necessary data to this end will of course be furnished by the government. The psychology of the child, so important from the point of view of education, would also be studied internationally. Practical methods would be elaborated, according to which the studies should be pursued in the different countries.

Finally, the institution would subserve an important function in the study of hypnotic, somnambulistic, and mediumistic phenomena. In all countries, the investigation and exploitation of these phenomena, be they real or imaginary, has

[illegible] charlatans [illegible]
[illegible] render the [illegible]
[illegible] science can [illegible]
[illegible] certainly [illegible]
[illegible] which so many
[illegible] enormous mass of
[illegible] reduced to their
[illegible] mountebanks. Hav-
[illegible] quantities, experi-
[illegible] elsewhere, the Insti-
[illegible] the domain
[illegible] forming character

[illegible] supply the
[illegible] toward ques-
[illegible] of labor will
[illegible]
[illegible] Institute Paris
[illegible] geographical posi-
[illegible] were interested

[illegible] the members
[illegible] groups:
[illegible] committee.
[illegible] following officials:
[illegible] University,
[illegible] Psychical
[illegible] Paris, M.
[illegible] Germany M. von
[illegible] Russia, M. Men-
[illegible] M. Flour-

[illegible] M. Bergson,
[illegible] Murray,
[illegible] M. Felix Alcan,

[illegible] appeared both
[illegible] may be obtained
[illegible] Serpente, Paris.
[illegible] consist of three
[illegible] the founders con-
[illegible] donors of members

subscribing 1,000 francs or more, or who pay an annual subscription of 100 francs or more, and ordinary members, who pay an annual subscription of 20 francs. Applications for membership in any one of these classes the society will be glad to receive. The enterprise will require a large capital. Some considerable sums have already been subscribed, and further donations are to be paid soon. Until the amount necessary for the founding of the Institute is collected, a certain proportion only will be devoted to the assistance of individual researches.

The work may be said to have already had a satisfactory beginning. In December the following courses were announced: Ch. Richet: History of the Science of Psychology; Tarde: The Relations Between Individual and Social psychology; Séailles: Relations Between Experimental and Introspective Psychology; Bergson: Dreams; Ochorovicz: Applications of Psychology to Medicine.

Prospects are also good for courses of lectures by Flournoy, Arsonval, Lombroso, and others. Psychologists travelling through Paris are invited to visit the Institute with a view to assisting in its regular work. The society will also be glad to receive gifts of books dealing with psychology, psychical research, psychophysiology, histology, pathology, etc., for its library.

I have but indicated in the present letter the possibilities of the practical working of the Institute. The details of the organisation will still require much study, and should be the consensus of opinion of the principal scientific authorities of the different countries. It is only in this way that the Institute can best respond to the needs which it has been established to fulfil. The officers of the Institute will be glad to receive on these points the advice of all persons interested, and will publish the expressions of opinion in their journal in order that this exchange of views may redound to the profit of all.

It is expected that the scientific circles in the universities of all countries, and particularly of the United States, where psychological researches are now being prosecuted with such vigor, will actively co-operate in this new international scientific enterprise.

PARIS. S. YOURIÉVITCH, General Secretary.

BOOK REVIEWS.

GENESIS. Critically and Exegetically Expounded. By *Dr. A. Dillmann*. Translated from the last edition by *Wm. B. Stevenson, B. D.* Edinburgh: T. & T. Clark. 1897. Pages, xii, 413.

GENESIS. Uebersetzt und erklärt von *Hermann Gunkel*.[1] Göttingen: Vandenhoeck & Ruprecht. 1901. Pp. 450. Price, bound, M. 9.50.

Among all the books of the Old Testament, Genesis is in many respects the most important one, because it contains the Hebrew accounts of the origin of the world and the first development of mankind. It is, as it were, the main source and record of Hebrew anthropology. For this very reason, however, the Book of Genesis has been a stumbling-block to the world at large, and especially to those pious souls who see in the Bible the word of God and a literally inspired record of divine revelation. It is well known that the views contained in Genesis have given perhaps more occasion for irreverent jests than the ideas recorded in all the other books of the Old and the New Testament combined. The Book of Genesis contains many antiquated conceptions which collide with modern science, such as the creation of woman from the rib of Adam; the story of the Deluge, with all its impossible details: the size of the ark, etc., etc.; the destruction of Sodom and Gomorrah; not to mention traditions where the behavior of the patriarchs, which in our day would arouse serious censure, is recorded without comment or blame. We hail, therefore, the publication of Gunkel's much needed *New Commentary* as well as the translation of Dillmann's book on the same subject.[2] Modern criticism will considerably change our interpretation of the Bible but it will at the same time take the wind out of the sails of flippant scoffery.

Dr. A. Dillmann, late professor of theology in the University of Berlin, needs no recommendation. His work is known in the theological world as thorough and scholarly. He is reliable in his criticism and yet remains a theologian, bearing in mind the religious significance of the ancient Hebrew documents. The translation

---

[1] This book forms the first volume of Dr. W. Nowack's *Handkommentar zum Alten Testament*.

[2] Stevenson's translation of Dillmann's *Genesis* appeared three years ago and should have been mentioned sooner in our pages but the book is not as yet out of date and deserves the attention of the public.

is done with great care by Prof. Wm. B. Stevenson, of Edinburgh, and we do not hesitate to say that the English version is rendered much handier than the German original by a good index and the division of the material into paragraphs, by avoiding the use of contractions and abbreviations as much as possible, and by relieving the text through the introduction of footnotes. Some additional references, as for instance to Robinson's *Palestine*, are very commendable and make the book more serviceable.

Professor Gunkel is known to our readers by his contribution to *The Monist* on the Hagar legends, and is generally recognised in theological circles as a very able and competent man. He has made a specialty of Genesis, and it is in the line of investigations of documents on primitive history that he has established his reputation. His book, *Schöpfung und Chaos*, is a very keen analysis of the Hebrew traditions of the origin of the world and the Jewish-Christian eschatology in their relation to Babylonian mythology. Gunkel urges that the history of Jewish thought ought to be considered in the frame of the general history of the Orient; or, in other words, we must conceive the development of Jewish religion in its connexion with Babylonian as well as Egyptian civilisation. Thus, he traces in the Old Testament the influence of the Babylonian Marduk myth and shows how it was utilised by the Hebrew prophets and historians.

The same plan of comprehending the literature of the Old Testament in its connexion with the world-culture of Oriental antiquity, has by Professor Gunkel been made a principle in working out the present commentary of the book of Genesis; and he insists above all on the fact which is now established in theology, that Genesis contains legends. This is not to be lamented by the pious, for poetry, and especially the saga, is an important vehicle of religious thought. It is in many respects better fitted than history to transmit religious sentiment; and the objection which has been made to this conception of Old Testament literature is based on the error which confounds *legend* and *lie*. Legends, though they are not historical, can as little be called lies as poetry can, for legends are decidedly a branch of poetry. Now, we have no objection to poetry as a vehicle of religious sentiment. The Bible contains psalms, and it is universally granted that the Book of Job is not a historical, but a poetical, book,—a religious epic. Why should one of the most important branches of poetry, the literature of sagas, be absolutely missing in the Bible?

The preface to Gunkel's *Commentary on Genesis* contains an explanation of the principles which guided him in his work. The learned author discusses the literary dress of the Genesis sagas, shows that they are poetry and not history, and that by treating them as history we wrong their authors as well as the traditions, and involve our own religious conception of the Bible in inextricable errors and perplexities. He insists that it is the duty of the exegetist to re-establish the sense in which the writer of these records wished the legends to be understood, and also to try to comprehend their genesis.

The commentary itself does not enter deeply into the details of the Hebrew text, not so much, for instance, as does Dillmann. Professor Gunkel refers his readers for linguistic text criticism to prior publications which have settled as far as possible most of the difficult problems, and are not antiquated by his new work on the same subject.

The printing of the translation is done in such a way that by a difference in type the reader can easily see at a glance the additions to the original text. The text is arranged according to the sources and shows separately the priestly writings and the Yahvist accounts. The idea of abandoning the old division of chapters and replacing it by a new system according to the nature of the text, is a great help to the reader. The comments are, as a rule, concise and contain all the references requisite to the explanation of the text.

Upon the whole, the book will prove as useful as it is interesting. It is not only a commentary serviceable to the theologian, but will also be of help to the anthropologist and folklorist. P. C.

THE SPIRITUAL LIFE. Studies in the Science of Religion. By *George A. Coe*, Ph. D., John Evans Professor of Moral and Intellectual Philosophy in Northwestern University. New York: Eaton & Mains. Cincinnati: Curts & Jennings. 1900. Pages, 279. Price, $1.00.

The organised and technical study of individual and class religious phenomena is of rather recent date. The historical and ethnological method of investigation, which is founded on the genetic or evolutionary point of view, has been pretty fully exploited since Tylor's original and thoroughgoing elaboration of its possibilities (1870–1871), and the materials and critical results thus accumulated have shed a flood of light on the development of objective religion, as distinguished from subjective individual religion. The systematic psychological study of this latter field is quite new. Our readers will find a good characterisation of its method and aims in Professor Leuba's article in the January *Monist* of this year, and they will also gain some idea of its problems from the statements quoted below from the frank and well-written work of Professor Coe which we are here considering. We will let Professor Coe state his case in his own words. He says: "The studies here presented have been undertaken in response to a conviction that, in the interest of both science and religion, a new intellectual attitude is necessary with respect to the facts of the spiritual life. The religious processes taking place around us and within us must be observed with all the precision that modern psychological methods and tools render possible. For, whatever else religion may or may not be, it is at least a mass of ascertainable states of consciousness; and in the absence of information to the contrary we must presume that such states can be analysed and described, and that their relations to one another and to the recognised laws of the mental and bodily life can be to some extent determined. What is needed is an examination of the facts as such, without reference to their possible bearing upon

eology or philosophy. Until this work is done there will remain an important p in the scientific knowledge of man. For, clearly, it is the humanity that now that gives us our problems concerning man's origin and development, and that cessarily controls and tests our hypotheses. Similarly, knowledge of what reli-on now is must be the most illuminating factor in any satisfactory science of re-ion.

"Religious propagandism also has a decisive motive for seeking to understand e religious consciousness of to-day. . . Current events are forcing upon thought-l minds in all the Protestant Churches a suspicion, if not a conviction, that what s claimed a peculiar right to the name 'evangelical,' both in piety and in modes propagating the Gospel, has not fully solved its own chosen problems. There reason for doubting whether even the spiritual teacher and guides of the people ally grasp the mental processes with which they have to deal. Training in doc-ne, in philosophy, in history, and even in the questions of the day, constitutes ly a logical equipment; there is still necessary a psychological equipment in der that one may appreciate the vast mass of mental states and processes of a nlogical sort. The evident decay of the revival, the alienation from the Church whole classes of the population, the excess of women over men in Church life, ie apparent powerlessness of organised religion to suppress or seriously check the reat organised vices and injustices of society, the failure of the Sunday school to ake the people or even its own pupils familiar with the contents of the Bible—ese facts ought to raise a question as to what, among the matters upon which we ave laid stress, is really practical and what mere ignorant blundering. . . . The resent volume does not undertake to solve these problems, much less to present a ystematic or complete treatment of the general psychology of religion. My task as been the much less ambitious one of working out a few closely related groups f facts which will claim a place in the systematic psychology of religion when this omes to be written, and which in the meantime have an important bearing upon ie practical side of religious life and work. While I have tried to approach the icts in the spirit and by the methods of science, I have not hesitated to point out each chapter some of the practical uses to which its materials and results may put. I hope that these suggestions will show where to look for a practical solu-on of several of our most troublesome problems."

Professor Coe's book contains, besides an Introduction, five chapters devoted the following topics: A Study of Religious Awakening; A Study of Some Ado-scent Difficulties; A Study of Religious Dynamics; A Study of Divine Healing; Study of Spirituality. The method is individual and statistical; for example, e ages of conversion of a certain number of individuals are gathered from answers prepared queries, and these are tabulated and plotted, as are also the feelings ac-mpanying conversions, etc., etc. Justifiable doubt may exist in some minds as to ie value of the results obtained by this method; at most they seem to confirm in a ound-about way what general observation has already established; the question

here is not the validity of the method, but the trustworthiness of the individual accounts, which usually emanate from hazy and commonplace sources and are not infrequently written with a morbid coloring and an evident desire for effect. Nevertheless, the discussions are bound to assume more tangibility and concreteness by this method, and this in itself may constitute a great step in advance.

As to Professor Coe's personal treatment of the facts, it seems to us very impartial; and while a decidedly Christian and reverential, and at the conclusion a rather homiletic, spirit pervades the book, the scientific attitude is no less pronounced, and some of our more zealous religionists will do well to consult its teachings. The chapter on Divine Healing is upon the whole a fair presentation of the situation; possibly it leans to over-liberality toward some supposed historical instances of miraculous curing; and the author's indication of the possibility of Christ's use of suggestion in his cures seems to us to smack rather of the rationalism of the eighteenth century than of our present critical attitude. Nevertheless, the chapter will be helpful to many. The remarks upon spirituality are also good, and the analysis of the Methodist hymnals and prayer-meeting songs should be called to the attention of future editors of such books. We cannot say so much for the mechanical and typographical form of the book as for its contents, which are in more than one way of merit. *μ.*

KUNSTWISSENSCHAFTLICHE STUDIEN. Von *Ernst Grosse*. Tübingen: Verlag von I. C. B. Mohr (Paul Siebeck). 1900. Pages, 259. Price, 5 M.

The essays offered in the present work are the outgrowth of lectures which Professor Ernst Grosse delivered on the science of art in the University of Freiburg. They are to be conceived as a sort of prolegomena for a series of special studies to be published later.

Studies of art, according to Professor Grosse, have existed for centuries, but an organised science of art is the product of the last few decades only. Scientific investigations do not deserve to be invested with the name of a science, until they have become conscious of the unity of their task, and have been consolidated into a living community making for mutual helpfulness and profit. And an organisation of this character has only recently been established among the different branches of æsthetic research.

While the historian of art has been busy gathering together isolated facts, wholly unmindful of the aims of the philosophy of art, the æsthetic philosopher on the other hand, unmindful of the methods of the history of art, has constructed his theories quite at random and without restrictions of any sort. The one party has thus massed together prodigious accumulations of unformed materials, and *the* other has built lofty castles in the air; but neither the one nor the other has *succ*eeded in the task, which they can accomplish in common only, of erecting on *firm* foundations with durable material and with a definite plan, a scientific structure proper. The history of æsthetic research itself is a living witness that such an

organisation is not only the outward attribute of a genuine science, but that it also determines its essential composition and the successful outcome of its labors.

The aim of the science of art, as Professor Grosse conceives it, is an understanding of the phenomena which are comprehended under the name of art; namely, the understanding of its nature, its causes, and its effects. And under these three headings our author has, in the first forty-five pages of the book, developed his theory. The first step to this end consists in the establishment and accumulation of all the individual æsthetic facts within the reach of experience. It is for this reason that researches in the history of art first developed and first exhibited the most vigor. Down to the eighteenth century, its investigations were pretty much restricted. It seldom went beyond the art of classic antiquity and the Renaissance; but toward the end of the century there began that grand march of intellectual and material conquest which extended its domain indefinitely in time and space. In all fields which the history of art has explored, it has rigorously followed the laws of scientific research, but in the choice of its fields it has been guided less by the needs of æsthetic historical research than it has by artistic hobbies; otherwise it is difficult to understand why it should have utterly neglected domains which, if it were actually seeking causal and scientific explanation, it would have explored in preference to all others.

Even Herder called attention to the high significance of the art of the lower races. There would seem to be hardly any necessity for his admonition, and one would naturally think that the historians of art should have discovered of their own accord that the study of these crude and simple forms was the indispensable condition for the scientific comprehension of the more complicated and richer types which the art of the more advanced races has presented. But the scientific comprehension of the nature of art, and a knowledge of the laws which control æsthetic phenomena were unfortunately a matter of entire indifference to these industrious collectors, and so they stood quietly by and witnessed the total destruction and defacement by European civilisation of those lower artistic forms which, in the first part of our century, were to be found on all hands in their primitive purity and variety. The few relics which have been saved at the last hour we owe, not to the historians of art, but to the ethnologists, who collected the æsthetic productions of the lower races mainly for their own purposes and who saw in the ornaments of these peoples nothing but fossils disclosing their ethnological history and in their sculptures and poetical creations only mythological and historical documents. It was not until latterly that the ethnologists began to regard these things as what they really were, namely as works of art. Yet even to-day the number of those is few who recognise the æsthetic value of these unassuming productions; and the fewest among them are still the historians of art. But it cannot be too often and too strongly emphasised that the aim of science is *not the knowledge but the understanding of things*, and that the former has only the value which the latter furnishes. It is not knowledge, but understanding, that illumines the

intellect. And this understanding is to be obtained, not from the history of art with its bare enumeration of isolated events, but from the science of art, which searches for general laws. The explanatory science of art as contrasted with the descriptive history of art is concerned thus, not with the individual and the particular, but with the typical and the general, the object of which, however, is the explanation of the particular. Thus the two provinces of researches stand to each other.

These considerations Professor Grosse has elaborated in detail in the first forty-five pages of his work, which treat respectively of the "Problems of the Science of Art," "The Nature of Art," and "The Nature of the Artist." The remaining one hundred and eighty pages of his book are devoted to the subjects "Art and Race," "The Effects Produced by Works of Sculpture," and "Science and Art." These chapters are readable, and offer many interesting reflexions to the student both of science and literature. The leading psychological and æsthetic motives underlying artistic creation and appreciation are here disclosed for the most part in an untechnical and simple manner, and the leading traits of both the phylogeny and ontogeny of art, if we may so express ourselves, adequately and distinctly characterised. The detailed studies of Professor Grosse may, in fact, be awaited with interest. μ.

SCIENCE AND FAITH, or Man as an Animal, and Man as a Member of Society. With a Discussion of Animal Societies. By *Dr. Paul Topinard*. Translated by Thomas J. McCormack. Chicago: The Open Court Publishing Co.; London: Kegan Paul Trench, Trübner & Co Pp., 374. Price, $1.50 (7s. 6d.).

The readers of *The Monist* will remember the series of able papers which Dr. Paul Topinard contributed to this quarterly during the years 1895–1898. These papers, revised and enlarged, have now been collected into an attractive volume, and are given to the general public as part of the great scientific *dossier* for the resolution of the problems involved in the reconciliation of ethical theory and practice. We may be permitted to characterise the work by quoting the following from the "Translator's Preface":

"Dr. Topinard's book is essentially a contribution to sociology; but it possesses the additional merit that it has been made by an original inquirer of high rank in a department of science which constitutes the groundwork of sociology, and that consequently its conclusions have sprung from a direct and creative contact with the facts, and not from derivative and secondary theories about those facts. Whatever objections, therefore, some of its special tenets may evoke, its importance as a first-hand investigation, and the weight consequently due to its utterances, cannot be underrated.

"But, while written by a specialist, the discussion is not exclusively anthropological and ethnological. The physical, historical, cultural, and psychological fac-

fors of social evolution receive the same emphasis of consideration as the biological and sociological proper. We shall briefly indicate Dr. Topinard's central view.

"To begin with, anthropology, supposing it not to concern itself with societies, discovers in man an animal only; man is in his primitive stage perforce subjective, and by a rigorous natural logic egocentric; the law of self-preservation, as determining his conduct, both towards nature and his fellow-animals, is paramount with him. Sociologically considered, therefore, man's animality, man's primitive and inherited egocentrism, is the primal source of all the difficulties that arise in society, the arch-enemy to be combated. And this contradiction, apparent or real, between the individual and society, between the social evolution as it actually is and the social evolution as we should like it to be, constitutes the problem to be elucidated. How has man been changed from an egocentric to a sociocentric animal? By what ideas? By what forms of reasoned conduct? By what organised impulses? By what forms of evolution, natural and artificial? And finally, what norm does the past furnish us for guidance in the future?

"A glance at the Table of Contents will show the manner in which Dr. Topinard has endeavored to solve this problem. Man as an animal, the factors and conditions of evolution, the animal family, animal and human societies, the human family, political and religious evolution, social evolution proper, the high rôle of ideas in progress, the functions of the State and of education in shaping conduct, are successively considered. We would call especial attention to the pages which deal with the evolution and differentiation of the ego, in all its multitudinous forms. Here lies the key to the situation; and the results of modern biological and psychological research on this subject Dr. Topinard has exploited to the full. The analysis of the ego, so called, furnishes the mechanism of establishing right conduct. Right conduct is originally to be based upon right reasoning, upon an adequate and comprehensive consideration, both from the individual and social point of view, of the determinative facts involved. For the purposes of practice, that reasoning is to be consolidated into fixed and automatic habits; the individual must, so to speak, be de-individualised, or rather, super-individualised; altruism in the form of the maxim of Christ, "Love ye one another," and as a species of differentiated and enlarged egoism, is the basis of his system, habits and social instincts are the means. In a word, a rationally and socio-centrically acquired ego, mechanical in its habits and super-individual in its impulses, is to be substituted for the primordial, self-seeking animal ego. This has been the method by which, in all history, right conduct has been secured; and modern psychology has found the mechanism of this method of education to harmonise with the results of its purely scientific analysis of the human soul."

Quite recently Dr. Topinard has published a French edition of the present work, slightly enlarged and altered to suit the exigencies of a French public, and in two appendices he has summarised and criticised the work and doctrines of *The Monist*. The French edition is issued by Masson & Cie., 120 Boulevard St. Germain.

THE BIOGRAPHY OF A BABY. By *Milicent Washburn Shinn*. Boston and New York: Houghton, Mifflin & Company. 1900. Pages, 247. Price, $1.50.

Miss Shinn's popular yet accurate exposition departs considerably from the purely scientific type of child-studies, and it will therefore appeal to a wide and highly appreciative public, which has hitherto been as good as debarred from participating in the results of the technical work of this department of psychology. It is briefly, simply, and graphically written, from a distinctively human and feminine, as well as scientific, point of view, and may be recommended as giving an intelligent and practical account of the general meaning and aims of modern baby-study.

Not to mention the little essay of Professor Tiedemann, published in the last century, the brief studies of Darwin (1840) and of Taine, the following records of infant-development are now accessible to students: Preyer's book (recently in a new posthumous fifth German edition, and also in an English translation by Brown); Professor Sully's *Extracts from a Father's Diary* (1881–1896); Dr. Pérez's and Professor Baldwin's studies; Miss Shinn's *Notes on the Development of a Child* (1893–1899), also the present work (1900); Mrs. Hall's *First Five Hundred Days of a Child's Life* (1896); Mrs. Moore's *Mental Development of a Child*; and Mrs. Hogan's *Study of a Child* (1898);—these exclusive of the many essays and discussions based on unpublished notes and records, for a list of which the reader may be referred to the successive issues of the *Psychological Index* (Macmillan).

As for Miss Shinn's present work, it may be characterised in her own words:

"I did not undertake the task," she says, "for any scientific purpose, for I did not feel competent to make observations of scientific value. But I had for years desired an opportunity to see the wonderful unfolding of human powers out of the limp helplessness of the new-born baby; to watch this fascinating drama of evolution daily, minutely, and with an effort to understand it as far as I could, for my own pleasure and information. I scarcely know whence the suggestion had come; probably almost by inheritance, for my mother and grandmother had both been in somewhat notable degree observers of the development of babies' minds. But, unlike them, I had the note-book habit from college and editorial days, and jotted things down as I watched, till quite unexpectedly I found myself in possession of a large mass of data.

"A few days after my own notes began I obtained Professor Preyer's record, and without it I should have found the earliest weeks quite unintelligible. For some months my notes were largely memoranda of the likenesses and differences between my niece's development and that of Preyer's boy, and I still think this is the best way for a new observer to get started. As time went on, I departed more and more from the lines of Preyer's observations, and after the first year was little influenced by them. Later, I devoted a good deal of study to the notes, and tried to analyse their scientific results."

The titles of the main headings of the discussions are: The New-born Baby: Structure and Movements; The New-born Baby: Sensations and Consciousness; The Earliest Developments; Beginnings of Emotion and Progress in Sense Powers; Progress Toward Grasping; She Learns to Grasp, and Discovers the World of Things; The Era of Handling Things; The Dawn of Intelligence; Beginnings of Locomotion; Creeping and Standing; Rudiments of Speech; Climbing and Progress Toward Walking; Walking Alone; Developing Intelligence.

THE UPANISHADS WITH SANKARA'S COMMENTARY. Translated into English by several Indian scholars. 1898, 1899. Madras: V. C. Seshacharri. 4 vols. so far published. Price, one volume, paper, 1.00–1.80 Rs.

Since Schopenhauer made the confession that the Upanishad philosophy was the solace of his life as well as of his death, this system has found an increasing number of supporters among the best Western minds; and as a result the significance of Indian thought in general is making itself more and more felt. Historians of philosophy are no longer satisfied with recording ancient Greek speculations or simply Mediæval Scholastic discussions; they are now endeavoring to find connecting links between the Occidental and the Oriental fountain-heads of thought, as in the case of Professor Garbe who is working to establish an historical relation between the Samkhya and the Pythagorean systems. Even apart from this historical interest, Indian philosophy offers us a very fruitful subject of investigation, as not a few thinkers are now busying themselves with a view to having it unified with Occidental thought, which is to a great extent saturated with the "Jewish superstitions." For these reasons we should welcome any publication that will help us to understand thoroughly the grand principle of Advaitism.

Advaitism is by no means an exclusive tenet of the Vedânta; Mahâyâna Buddhism has also a rightful claim to it. But Sankara's wise allusion to the Upanishads whenever it is found convenient to utilise this ancient traditional philosophy, has been one of the principal means of bringing the Vedantic literature before the eyes of Western scholars. Whatever the case may be, the study of this "boldest and truest synthesis in the whole history of philosophy" (Max Müller) cannot be dispensed with.

With this view, V. C. Seshacharri, Madras, has undertaken lately the serial publication of an English translation by native Indian scholars of several of the principal Upanishads with Sankara's commentary, which is thought by Deussen to be "equal in rank to Plato and Kant." The Upanishads so far published are those which are already in our possession through the efforts of Max Müller, Deussen, and other scholars, viz.: *Isa*, *Kena*, *Mundaka*, *Chandogya*, *Katha*, and *Prasna*. But the present translation comprises not only the texts themselves with the Sanskrit original, but also a detailed commentary by Sankara, the founder of the Vedânta philosophy. The series will undoubtedly afford a great opportunity to the English reader who is desirous of knowing something about the magnificent Indian intel-

lectual movement, and who wishes to avoid the trouble of perusing the original. As for the translation itself we have only to quote the words of the publisher: "The spirit of the text and of the interpretation has throughout been faithfully adhered to and perhaps, in some instances, even to the detriment of elegance in diction." T. S.

LE FORME DI GOVERNO E LA LORO EVOLUZIONE POPOLARE. Two volumes. By *Giacomo Pagano*. Palermo: Tipografia Editrice "Lo Statuto." 1900. Pages, first vol., xxi, 343; second, 478. Price, L. 15.

The author of these two volumes consciously emphasises the idea of the natural solidarity of the universe, consequently he finds it necessary to give an exposition of cosmic and social evolution in order to present the development of the forms of government. His work is especially valuable, therefore, to those readers who are not already familiar with cosmogony, anthropogeny, and sociogeny.

The first volume is devoted entirely to a consideration of the sidereal, geological, biological, and social environment, and is a magazine of facts concerning the influence and intimate relations of these factors. It bears about the same relation to the second volume as the first division of Professor Ward's *Dynamic Sociology* bears to the second. That is to say, Professor Pagano, like Professor Ward, devotes his first volume to the exposition of a cosmic philosophy which serves as a background and a setting for the theories of the second volume. Some readers find this an advantage, but to others it will seem that greater condensation might have been practised with advantage.

Professor Pagano's second volume is a treatment of his subject proper, and contains incidentally a theory of social development. Unlike Professor Ward, he holds that man was originally social in his nature, and finds in this fact of original and continuous human interdependence an illustration of the general solidarity of the universe. We find accordingly that he discards the idea of an original state of nature, and speaks of society as representing a continuous state of nature. The laws of the physical world run through the social world. Political aggregates, for instance, are governed by the same laws as anterior aggregates. The elementary human needs of alimentation and reproduction produce a sociological determinism which guides the author through the maze of historic and modern social phenomena.

Not until we come to the tenth chapter of the second volume do we find a discussion of the forms of government. The theory of their development does not vary widely from that of Herbert Spencer. Social cohesion was most frequently determined by the necessity of making war, and war gave rise to the monarchical form of government. The typical forms are those of Aristotle, namely, monarchic, aristocratic, and democratic, the various modifications of which are shown and accounted for.

Each chapter of this scholarly work is followed by notes, usually in the form

of quotations, embodying the opinions of the various authorities on the points discussed. The author's own comments only are attached as footnotes. I. W. H.

PHILOSOPHIE GÉNÉRALE ET MÉTAPHYSIQUE. Volume I. Paris: Librairie Armand Colin, 5, rue de Mezières. 1900. Pages, xxii, 460. Price, 12.50 francs.

The addresses delivered at the International Congress of Philosophy in Paris last summer are to be published in four large volumes, under the titles: (1) General Philosophy and Metaphysics; (2) Ethics; (3) Logic and History of the Sciences; and (4) History of Philosophy. The first of these has already appeared, and judging from the character of its contents, the library which the four volumes in question will form will make a handsome contribution to philosophical literature. The design of the Congress and the elaboration of its programme were so intelligently conceived and so systematically executed by its general director, Monsieur Xavier Léon, that no less a result could be expected; and the reader will find in these volumes a pretty authoritative digest of present philosophical thought.

The opening address of M. Boutroux, the president of the Congress, was appropriate and full of hope for the future; M. H. Bergson spoke on the psychological origin of our belief in the law of causality, a very important subject in the present state of scientific philosophising; Dr. Pierre Bonneir dealt with the relations existing between our intuitions of space and our intellectual representations. M. Léon Brunschvigg discussed contemporary idealism; M. Mario Calderoni, metaphysics and positivism; and M. Charles Cantoni, philosophical instruction in our universities and higher academies. M. E. Chartier delivered an address on the education of the ego; M. Lionel Dauriac contributed a note on the neocritistic doctrine of the categories; Dr. J.-P. Durand (de Gros), whose recent death was much lamented, sent in an essay on the psychology of hypnotism; M. F. Evellin treated the dialectics of the antinomies; M. Élie Halévy, the association of ideas; Mr. Shadworth H. Hodgson our conception of cause and real condition. A criticism of the fixation of philosophical language was the subject of M. André Lalande's discourse; rationalism and fideism that of M. Paul Lapie; positive science and the philosophies of free will that of M. Édouard Le Roy. Prof. Paul Natorp wrote a paper on number, time, and space in their relations with the primitive functions of thought; M. B. Tchitchérine answered the question whether metaphysics is or is not a science; Dr. Ferdinand Tönnies devoted an essay to creative syntheses; while finally M. Louis Weber discussed the idea of evolution in its relations with the problem of certitude. The essays are well printed from large type on thick paper.

DIE MIKRONESISCHEN COLONIEN AUS ETHNOLOGISCHEN GESICHTSPUNKTEN. Von *Adolf Bastian*. Berlin: A. Ascher & Co. 1899. Pages, vii, 369.

The veteran and indefatigable director of the Ethnological Museum of Berlin has presented in this volume with all his accustomed display of encyclopædic

knowledge and stylistic intricacy the results of his researches in that very interesting island group of Oceanica which goes by the name of the Carolines. These islands have lately come into possession of Germany, and they naturally seem to be a proper field for German scientific study. The Caroline group, though not large in actual land area, is strung out over a territory nearly as great as that between Lisbon and Moscow, in Europe. There are four hundred islands in all, in forty-six groups. The population is estimated at from twenty-five to thirty thousand. The discovery and colonial history of the islands are briefly told by Professor Bastian who looks upon them as a valuable acquisition from an ethnological point of view. The inhabitants, before their perversion by the Europeans, were typical peace-loving savages, and in some parts retain to this day their original genial and intelligent traits. The study of them, in Professor Bastian's opinion, has afforded many varied psychological glimpses into the intellectual workings and productions of the primitive mind.

It is apart from our plan here to enter into the details of Professor Bastian's investigations which, according to his own admission, have not been systematised or digested,—a task which in the present stage of detailed research would be impossible. It is incumbent upon us only to say that he has traced out in his wonted comprehensive manner the analogies and parallels which obtain between the beliefs, customs, and notions of these Micronesian islanders and those of other uncultivated and cultivated peoples. The subjects thus treated are the notions of soul, of death and immortality, of spirits and genii; theories of cosmogony, demonology, legends, etc. That the task has been accurately and eruditely done it would be supererogatory on our part to say. *μ.*

SYLLABUS OF PSYCHOLOGY. By *James H. Hyslop, Ph. D.*, Professor of Logic and Ethics in Columbia University. New York: The Macmillan Co. 1899. Pages, 116. Price, $1.00.

A SYLLABUS OF AN INTRODUCTION TO PHILOSOPHY. By *Walter T. Marvin, Ph. D.* Assistant in Philosophy, Columbia University. New York: The Macmillan Co. 1899. Pages, x, 279. Price, $1.25.

These syllabi have almost altogether a purely personal and local interest, having been designed for the use of students attending the lecture courses of Professors Hyslop and Marvin, of Columbia University, of New York. They are not intended to supply the place of text-books, but merely to facilitate the use of the most important existing works, and their authors believe that they will be useful to all beginners in philosophy and psychology.

VALUABLE NEW BOOKS

Whence and Whither? An Inquiry Into the Nature of the Soul, Its Origin and Destiny. By DR. PAUL CARUS. Pages, viii, 188. Price, cloth, 75 cents (3s. 6d.).

Treats of the nature of the ego; human personality; spiritual heredity; human immortality; etc., from the standpoint of modern psychology and biology.

The Gospel According to Darwin. By DR. WOODS HUTCHINSON. Pages, xii, 241. Price, paper, 50 cents (2s. 6d.). Cloth, $1.50 (6s.).

"Is one of the most thoughtful and stimulating of recent publications . . . frank, manly, and straightforward . . . much food for profitable meditation in its pages."—*Chicago Chronicle.*

Açvaghosha's Discourse on the Awakening of Faith in the Mahâyâna. Translated for the first time from the Chinese version, by TEITARO SUZUKI. Pages, 176. Price, cloth, $1.25 (5s.).

This is one of the lost sources of Buddhism. It has never been found in its original Sanskrit, but has been known to exist in two Chinese translations, the contents of which have never been made accessible to the Western world. This famous book has now been translated from the Chinese for the first time, by Mr. Teitaro Suzuki, a Japanese Buddhist scholar, and has been published with introduction, comments, glossary, and index.

An Enquiry Concerning Human Understanding. By DAVID HUME. Reprinted from the edition of 1777, with Hume's autobiography and a letter from Adam Smith, usually prefixed to the *History of England.* Frontispiece, portrait of Hume by Ramsay. Pages, 201. Price, paper, 25 cents.

World's Congress Addresses. Delivered by the President, the HON. CHARLES CARROLL BONNEY, LL.D., to the World's Parliament of Religions and the Religious Denominational Congresses of 1893. Printed as a Memorial of the Significant Events of the Columbian Year. Pp , vi, 88. Price, paper, 15c (9d.).

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

TO FLORIDA through Pullman Vestibule Limited via

MONON ROUTE
CHICAGO, INDIANAPOLIS & LOUISVILLE RAILWAY

and C. H. & D. R. W'Y. Carries Sleepers, Dining Car, Library, and Observation Car.

The Most Elegant Train from Chicago

Leaves Dearborn Station every Monday and Thursday Noon, running through to Jacksonville and St. Augustine without change.

Four trains to Indianapolis and Cincinnati daily.

CITY TICKET OFFICE,

232 Clark St. Chicago, Ill.

AMERICA'S MOST POPULAR RAILROAD

C&A C&A C&A C&A

CHICAGO AND ALTON RAILROAD.

C&A C&A C&A C&A

PERFECT PASSENGER SERVICE BETWEEN

CHICAGO AND KANSAS CITY.
CHICAGO AND ST. LOUIS.
CHICAGO AND PEORIA.
ST. LOUIS AND KANSAS CITY.

Through Pullman service between Chicago and

HOT SPRINGS, Ark., DENVER, Colo.
TEXAS, FLORIDA, UTAH,
CALIFORNIA AND OREGON.

If you are contemplating a trip, any portion of which can be made over the Chicago & Alton, it will pay you to write to the undersigned for maps, pamphlets, rates, time-tables, etc.

GEO. J. CHARLTON,
General Passenger and Ticket Agent,
CHICAGO, ILLINOIS.

SCHOPENHAUER BUSTS

The Open Court Publishing Co. has procured from Elisabet Ney, the famous sculptress, the original model of her well-known bust of Schopenhauer, made in 1859, a year before the death of the great philosopher. (Photographs on application.)

Plaster Casts Made from the Original Model by Elisabet Ney.

A limited number of life-size plaster reproductions of this model have been made and are offered for sale at $15 00 each. Transportation is extra, but the weight of the bust, packed and ready for shipment, will not exceed fifty pounds.

THE OPEN COURT PUBLISHING CO.

325 DEARBORN STREET, CHICAGO, ILL.

THE PHYSICAL REVIEW.

A JOURNAL OF EXPERIMENTAL AND THEORETICAL PHYSICS.

CONDUCTED BY

EDWARD L. NICHOLS, ERNEST MERRITT, and FREDERICK BEDELL.

Two volumes of THE PHYSICAL REVIEW are published annually, these volumes beginning in July and January, respectively, and containing at least five numbers each. The price of subscription is two dollars and fifty cents a volume (five dollars a year), or fifty cents a number. Subscriptions should be sent to the publishers, THE MACMILLAN COMPANY, *66 Fifth Ave., New York;* Messrs. MACMILLAN & CO., LTD., *London;* or to Messrs. MAYER & MUELLER, *Berlin.*

Previous to Volume V. (July-December, 1897), THE PHYSICAL REVIEW was published in annual volumes, each containing six bi-monthly numbers, beginning with the July–August number, 1893. These may be obtained from the publishers at the former subscription price, three dollars per volume.

Correspondence relating to contributions should be addressed to the editors, at *Ithaca, New York.*

Manuscript intended for publication in THE PHYSICAL REVIEW must be communicated by the author; when publication in other journals is contemplated, notice to this effect should be given.

The authors of original articles published in the REVIEW will receive one hundred separate copies in covers, for which no charge will be made; additional copies when ordered in advance, may be obtained at cost.

PUBLISHED FOR CORNELL UNIVERSITY.

THE MACMILLAN COMPANY,

NEW YORK.

Philosophical and Psychological Portrait Ser

Suitable for framing and hanging in public and private libraries, laboratories, seminaries, recitation and lecture rooms.

The portraits, which are 11 x 14 in., have been taken *from the best sources*, a high-grade photogravures. The series is now complete.

KANT (*Original 11×14 in.*)

Philosophical:

PYTHAGORAS	SPINOZA	HEGEL
SOCRATES	LOCKE	SCHLEIERM
PLATO	BERKELEY	SCHOPENHA
ARISTOTLE	HUME	HERBART
EPICTETUS	MONTESQUIEU	FEUERBACH
THOMAS AQUINAS	VOLTAIRE	LOTZE
ST. AUGUSTINE	D'ALEMBERT	REID
AVERRHOES	CONDILLAC	DUGALD ST
DUNS SCOTUS	DIDEROT	SIR W. HAM
GIORDANO BRUNO	ROUSSEAU	COUSIN
BACON	LEIBNITZ	COMTE
HOBBES	WOLFF	ROSMINI
DESCARTES	KANT	J. STUART M
MALEBRANCHE	FICHTE	HERBERT S
SCHELLING		

Psychological

CABANIS	MACH	ROMANES
MAINE DE BIRAN	STUMPF	PAUL JANET
BENEKE	EXNER	RIBOT
E. H. WEBER	STEINTHAL	TAINE
FECHNER	BAIN	FOUILLEE
HELMHOLTZ	SULLY	BINET
WUNDT	WARD	G. STANLEY
HERING	C. L. MORGAN	G. T. LADD
AUBERT		

To Subscribers:

TERMS: For *the whole series* (68 portraits) on *regular paper*, *$7.50* (*35s.*); on *heavy Imperial Japanese paper*, *$11* (*50s.*).

The Philosophical Series, 43 portraits, Imperial Japanese paper, $8.75 (40s.); the same on the best plate paper, $6.25 (30s.). The Psychological Series, 25 portraits, on Imperial Japanese paper, $5.00 (24s.); the same on the best plate paper, $3.75 (18s.). (The higher prices in parentheses refer to foreign countries. Carriage prepaid.) Single portraits on regular paper, 25 cents.

For subscribers who may prefer not to frame the portraits, *a neat portfolio* will be provided at a cost of $1.00 additional.

HOBBES. (*Original 11×14 in.*)

"I have received the first instalment of the series of portraits of philosophers, and am very much pleased with them."—*Prof. David G. Ritchie*, St. Andrews, Scotland.

"I congratulate you on the magnificent character of the portraits, and I feel p have such adornments for my lecture room."—*J. J. McNulty*, Professor of Philos the College of the City of New York.

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn

LONDON: Kegan Paul, Trench, Trübner & Co. (Ltd.).

THE PSYCHOLOGICAL REVIEW

The regular numbers of *The Psychological Review* are issued bi-monthly on the first days of January, March, May, July, September, and November, and contain about 112 large octavo pages. The space is about equally divided between research work and critical articles, and reviews and discussion of psychological literature.

The Annual Subscription is $4.00 (16s. 6d.; Mk. 16.50; Fr. 21); Single Numbers, 75 cents (3s.; Mk. 3; Fr. 3.75).

As part of *The Review* there is published annually

The Psychological Index,

a bibliography prepared by PROF. H. C. WARREN, of Princeton University. It is sent without charge to subscribers to *The Review*, and may be purchased separately.

As part of *The Review* there is also published a series of

Monograph Supplements,

consisting of longer researches or treatises which it is important to publish promptly and as units. The *Monographs* are as follows:

VOL. I. $4.00.

I. **On Sensations from Pressure and Impact:** HAROLD GRIFFING. Pp. ii+88. 75c.
II. **Association:** MARY WHITON CALKINS. Pp. vii+56. 50 cents.
III. **Mental Development of a Child:** KATHLEEN MOORE. Pp. iv+150. $1.25.
IV. **A Study of Kant's Psychology:** EDWARD FRANKLIN BUCHNER. Pp. viii+208 $1.50.

VOL. II. $4.00.

V. **Problems in the Psychology of Reading:** J. O. Quantz. Pp. iv+51. 50 cents.
VI. **The Fluctuation of Attention:** JOHN PERHAM HYLAN. Pp. ii+78. 75 cents.
VII. **Mental Imagery:** WILFRID LAY Pp. ii+59. 50 cents.
VIII. **Animal Intelligence:** EDWARD L. THORNDIKE. Pp. ii+109. $1.00.
IX. **The Emotion of Joy:** GEORGE VAN NESS DEARBORN. Pp. ii+70. 75 cents.
X. **Conduct and the Weather:** EDWIN G. DEXTER. Pp. viii+105. $1.00.

VOL. III. $4.00. (To contain about 500 pages.)

XI. **On Inhibition:** B. B. BREESE. Pp. iv+65. 75 cents.
XII. **On After-Images:** SHEPHERD IVORY FRANZ. Pp. ix+61. 75 cents.
XIII. **The Accuracy of Voluntary Movement:** R. S. WOODWORTH. Pp. iv+114. $1.00.
XIV. **A Study of Lapses:** H. HEATH BAWDEN. Pp. iv+122. $1.00.

Subscriptions, orders, and business communications may be sent direct to Professor H. C. WARREN, Business Manager, Princeton, New Jersey, U. S. A., or forwarded through the publishers or agent.

THE MACMILLAN COMPANY,

41 N. QUEEN ST., LANCASTER, PA. 66 FIFTH AVE., NEW YORK.

AGENT: G. E. STECHERT, LONDON (2 Star Yard, Carey St., W. C.); LEIPZIG (Hospital St., 10); PARIS (76 rue de Rennes).

The History of the Devil

and

The Idea of Evil

THE HISTORY OF THE DEVIL AND THE IDEA OF EVIL from the Earliest Times to the Present Day. By *Dr. Paul Carus.* Printed in two colors from large type on fine paper. Bound in cloth, illuminated with cover stamp from Doré. Five hundred 8vo pages, with 311 illustrations in black and tint. Price, $6.00 (30s.).

Beginning with prehistoric Devil-worship and the adoration of demon gods and monster divinities, the author surveys the beliefs of the Summero-Accadians, the Persians, the Jews, the Brahmans, the Buddhists, the early Christians, and the Teutonic nations. He then passes to the demonology of the Middle Ages, the Reformation, and modern times, discussing the Inquisition, witchcraft, and the history of the Devil in verse and fable. The philosophical treatment of the subject is comparatively brief, but the salient points are clearly indicated in every connexion.

"It is seldom that a more intensely absorbing study of this kind has been made, and it can be safely asserted that the subject has never before been so comprehensively treated. . . . Neither public nor private libraries can afford to be without this book, for it is a well of information upon a subject fascinating to both students and casual readers."—*Chicago Israelite.*

"As a remarkable and scholarly work, covering a subject not yet exhausted by the scientist and the philosophical historian, this book by Dr. Carus has a peculiar interest for the student, while it has also features of popular interest."—*Chicago Record.*

"The pictorial illustrations of this subject from earliest Egyptian frescoes, from pagan idols, from old black-letter tomes, from quaint early Christian sculpture, down to the model pictures of Doré and Schneider, add greatly to the value of the book."—*Methodist Magazine and Review.*

The Open Court Publishing Co.

324 DEARBORN STREET, CHICAGO

London: KEGAN PAUL, TRENCH TRÜBNER & CO., Ltd.

GEORG REIMERS VERLAG

BERLIN W. 35, LÜTZOWSTRASSE 107/8.

Kants gesammelte Schriften. Herausgegeben von der *Königlich Preussischen Akademie der Wissenschaften* zu Berlin.

Diese Ausgabe von Kants gesammelten Schriften strebt die vollständige und reinliche Darbietung alles von Kant Erhaltenen an. Sie will dasselbe einerseits dem philosophisch gebildeten Leser zugänglich und benutzbar machen, anderseits der dem Leben und der Lehre Kants gewidmeten Forschung das für sie notwendige Material erschliessen. Die Ausgabe zerfällt in 4 Abteilungen:

I. Werke. II. Briefwechsel. III. Handschriftlicher Nachlass. IV. Vorlesungen.

und umfasst 22 bis höchstens 25 Bände. Es ist das Erscheinen von 2—3 Bänden alljährlich in freier Folge beabsichtigt; zunächst gelangen Briefwechsel und Werke zur Veröffentlichung. Jede Abteilung, sowie jeder Band der Ausgabe wird einzeln käuflich sein, doch bitte ich in beiderseitigem Interesse, Kontinuationsliste anzulegen.

Als erster Band erschien vor Kurzem:

BAND X., **Briefwechsel, Band 1.** 1747 bis 1788.
Preis, broschirt, 10 Mark; in Halbfranz gebunden 12 Mark.

Als zweiter Band der ganzen Reihe erschien soeben:

BAND XI., **Briefwechsel, Band 2.** 1789 bis 1794.
Preis, broschirt, 10 Mark; in Halbfranz gebunden 12 Mark.

Prospect über das Gesammtwerk gratis und franco.

Kants Kritik der reinen Vernunft. Herausgegeben von *Benno Erdmann.* Fünfte durchgesehene Auflage. Preis, broschirt, 4 M., in Halbfranz gebunden 5 M.

Beiträge zur Geschichte und Revision des Textes von Kants Kritik der reinen Vernunft. Anhang zur fünften Auflage der Ausgabe von *Benno Erdmann.* Preis 2 M.

Geschichte der Königlich Preussischen Akademie der Wissenschaften zu Berlin. Im Auftrage der Akademie bearbeitet von *Adolf Harnack.* Drei Bände. 150 Bogen Lexikon-Oktav mit 8 Porträts. Preis 60 M.

Three Publications of Note

A WORK ON PSYCHOLOGY.

THE EVOLUTION OF GENERAL IDEAS. By *Th. Ribot*, Professor in the Collège de France. Authorised translation from the French by Frances A. Welby. Pp., xi, 231. Price, cloth, $1.25 (6s. 6d.).

"All that he writes is lucid and suggestive, and the course of lectures here translated is a characteristic contribution to psychology."—*Nature.*

"An interesting and instructive essay, and well within the capacity of the general reader."—*The Dial.*

A CONTRIBUTION TO SOCIOLOGY.

SCIENCE AND FAITH, OR MAN AS AN ANIMAL AND MAN AS A MEMBER OF SOCIETY. WITH A DISCUSSION OF ANIMAL SOCIETIES. By *Dr. Paul Topinard*, Late General Secretary of the Anthropological Society of Paris, and Sometime Professor in the School of Anthropology. Pp., 361. Price, cloth, gilt top, $1.50 net (6s. 6d. net).

"A most interesting volume."—*Glasgow Herald.*

"Stimulating and suggestive."—*The Scotsman.*

"The book is worth reading, whether we are or are not satisfied with its conclusions."—*Nature.*

"An unusually interesting volume . . . . suggestive in the highest degree . . . worth the time of any man to read from beginning to end."—*Times-Herald.*

A BOOK ON COMPARATIVE FOLK-LORE.

SOLOMON AND SOLOMONIC LITERATURE. By *Moncure D. Conway.* Pp., viii, 243. Bound in red cloth. Price, $1.50 net (6s.). Portrays the entire evolution of the Solomonic legend in the history of Judaism, Christianity, Hinduism, Buddhism, and Parseeism, and also in ancient and modern folk-lore, taking up, for example, the legend of Solomon's ring, Solomon's seal, etc., etc.

"A thoughtful, interesting, and scholarly study."—*Pittsburgh Times.*

"Full of curious lore."—*Manchester Guardian.*

"Mr. Conway's book on Solomonic literature is precisely such a work as we should expect from the author of *Sacred Anthology.* The logic is everywhere blazed with the poetry of Mr. Conway's nature. There are frequent passages of great eloquence."—*Unity.*

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

TERRESTRIAL MAGNETISM

AND

ATMOSPHERIC ELECTRICITY

An International Quarterly Journal conducted by L. A. BAUER, of the United States Coast and Geodetic Survey, with the assistance of

M. ESCHENHAGEN
Potsdam

TH. MOUREAUX
Parc St. Maur

ADOLF SCHMIDT
Gotha

G. W. LITTLEHALES
Washington

A. SCHUSTER
Manchester

J. ELSTER and H. GEITEL
Wolfenbüttel

J. S. AMES
Baltimore

A. McADIE
San Francisco

Foreign Councillors

A. W. RÜCKER
England

W. VON BEZOLD
Germany

E. MASCART
France

M. RYKATCHEW
Russia

American Councillors

H. S. PRITCHETT
Coast and Geodetic Survey

T. C. MENDENHALL
Worcester

W. B. CLARK
Johns Hopkins University

C. A. SCHOTT
Washington

With the March, 1900, issue, this Journal, devoted exclusively to Terrestrial Magnetism, Atmospheric Electricity, and allied subjects—such as Earth Currents, Auroras, etc.—entered on its fifth volume. The hearty co-operation extended, and the warm encouragement received from all sides, are the surest proof that the inauguration of this Journal has met a keenly felt want. Doubtless never before has such enthusiastic interest been taken in these most elusive subjects. No one who wishes to keep abreast of the latest and best thought in these comparatively unexplored sciences can afford to be without this Journal.

Every issue contains a fine half-tone portrait of some eminent magnetician or electrician.

A volume begins with the March issue and embraces about 200 large octavo pages. Articles appear in the original language of the author when Roman characters can be used.

Domestic Subscription Price: - - - $2.50 a year.
Foreign Subscription Price: - - - $2.75 a year.

Correspondence relating to subscriptions should be addressed to the **JOHNS HOPKINS PRESS, Baltimore, Maryland.** All other correspondence should be addressed to the **EDITOR, Washington, D. C.**

CHICAGO INSTITUTE

ACADEMIC AND PEDAGOGIC

FRANCIS W. PARKER, PRESIDENT WILBUR S. JACKMAN, DEAN
COL. J. G C. LEE, DIRECTOR

AUTUMN, WINTER AND SPRING QUARTERS
AND SUMMER SCHOOL

THE PEDAGOGIC SCHOOL

Is thoroughly equipped for the training of teachers in harmony with the larger educational ideals.

THE ACADEMIC SCHOOL

Affords unsurpassed facilities for the education of children and youth. All grades from Kindergarten to High School are included, and students who complete the High School course are prepared to enter any College or University.

SUMMER SCHOOL

The Chicago Institute maintains a Summer School of Pedagogy opening in July and continuing for twelve weeks. For convenience, the summer session is divided into four terms of three weeks each.

No entrance examinations are required. The school is specially designed for teachers and others who wish to use all or a part of the vacation season to fit themselves more fully for their profession under the most favorable conditions.

COURSE OF STUDY

A NEW DEPARTURE IN EDUCATIONAL PUBLICATIONS

The COURSE OF STUDY is a magazine of about 100 quarto pages, edited by the Faculty of the Chicago Institute and published monthly at $2.00 per year.

It is made up of practical working outlines, with book references, illustrations, working drawings, etc., covering all subjects in the curriculum.

For the convenience of Superintendents, Principals and Teachers, the outlines of each subject and grade are published separately in leaflet form and may be obtained in quantities as desired.

FOR CATALOGUE OR INFORMATION ADDRESS

FRANCIS W. PARKER, PRESIDENT

690 WELLS STREET, CHICAGO, ILL.

YEARLY SUBSCRIPTIONS
$3 or 12 s. post-free

MIND

SINGLE NUMBERS
Price, $1.00

(NEW SERIES)

A QUARTERLY REVIEW OF PSYCHOLOGY AND PHILOSOPHY

Edited by G. F. STOUT.

With the co-operation of

PROF. H. SIDGWICK, PROF. E. CAIRD, DR. WARD (England), and PROF. E. B. TITCHENER (U. S. A.)

MIND is the only periodical which represents the interests of Psychology and Philosophy in England. Its general aim is to afford a vehicle for the expression of all that is most original and valuable in current English thought, without distinction of School or Department of Philosophical Inquiry.

Each number contains one hundred and forty-four pages. Of these nearly one hundred are occupied by original articles. Under the head *Discussions* follow short papers on current topics of controversy, suggested for the most part by articles or reviews which have previously appeared in MIND. In each number at least three books are selected to receive full *Critical Notice*, by experts in the subject of which they treat; while under the head **New Books** is given a general account of the aim and contents of all recently published works of any importance which come within the scope of the *Review*. Between twenty and thirty books receive notice in each issue. There also appears, under the head of **Philosophical Periodicals**, a list of the titles and an indication of the contents of the articles in the leading philosophical journals, English and Foreign, with a fuller notice of those which appear to be of special importance. **Notes** on recent researches and current news conclude each number.

All literary communications from Europe should be addressed to G. F. Stout, University, Aberdeen, Scotland. Unaccepted Manuscripts cannot be returned unless stamps are inclosed for postage.

Correspondence from American readers relating to advertising and subscriptions should be addressed to G. E. Stechert, 9 East Sixteenth Street, New York, all other communications to Professor E. B. Titchener, Cornell University, Ithaca, N. Y.

Among recent contributors to MIND may be mentioned: Professor Adamson, B. Bosanquet, F. H. Bradley, Professor Baldwin, Francis Galton, Shadworth H. Hodgson, L. T. Hobhouse, W. E. Johnson, Henry Rutgers Marshall, Dr. Colley March, Prof. J. S. Mackenzie, J. E. McTaggart, Rev. H. Rashdall, Dr. Rivers, Hon. B. A. W. Russell, F. C. S. Schiller, Alfred Sidgwick, Prof. H. Sidgwick, Professor Sorley, A. F. Shand, Prof. W. G. Smith, Prof. E. B. Titchener, Prof. James Ward, Dr. Wallaschek and Dr. Westermarck.

Published in Europe by

WILLIAMS AND NORGATE.

EDINBURGH:	LONDON:	OXFORD:
20, South Frederick Street.	14, Henrietta Street, Covent Garden.	7, Broad Street.

Sole Agent in America: GUSTAV E. STECHERT,

9 East Sixteenth Street, New York.

Treatises on Evolution.

Darwin and After Darwin.

An Exposition of the Darwinian Theory and a Discussion of Post-Darwinian Questions.

By GEORGE JOHN ROMANES, LL. D., F. R. S.

PART I. **The Darwinian Theory.** Pp. xiv. 460. 125 Illustrations. Second Edition. With Portrait of Darwin. Cloth, $2.00.

"The best single volume on the general subject since Darwin's time."—*American Naturalist.*

"The most lucid and masterly presentation of the Darwinian theory yet written."—*Public Opinion.*

"The best modern handbook of evolution."—*The Nation.*

PART II. **Post-Darwinian Questions. Heredity and Utility.** Pp. xii, 344. With Portrait of Romanes. Cloth, $1.50.

"The clearest and simplest book that has appeared in the sphere of the problems it discusses."—*Chicago Dial.*

"Contains the ripest results of deep study of the evolutionary problem. . . . No student of the subject can afford to neglect this last volume of Romanes."—*Bibliotheca Sacra.*

PART III. **Post-Darwinian Questions. Isolation and Physiological Selection.** Pp. 181. With Portrait of Mr. Gulick. Cloth, $1.00.

The three volumes of *Darwin and After Darwin* Supplied to One Order for $4.00 net.

The Primary Factors of Organic Evolution.

By PROFESSOR E. D. COPE.

Cuts, 121. Pages, 550. Tables, Bibliography, Index. Cloth, net, $2.00.

"Will stand as the most concise and complete exposition of the doctrines of the Neo-Lamarckian school hitherto published. A most valuable text-book."—*Science*, N. Y.

"A work of unusual originality. No one can read the book without admiring the intimate knowledge of facts and the great power of generalisation which it discloses."—*Prof. J. McK. Cattell.*

A First Book in Organic Evolution.

An Introduction to the Study of the Development Theory.

By D. KERFOOT SHUTE, M. D.

Professor of Anatomy in the Medical Department of the Columbian University.

Pp. xvi, 285, 39 illustrations—9 in natural colors. Price, cloth, $2.00 (7s. 6d.).

"It is a presentation of the subject for the general reader, which is masterly, clear, and entertaining. A profound subject is thoroughly grasped; a technical subject is made plain; and a complex subject is made simple. I am especially delighted with it as a book for auxiliary reading in the High Schools and Colleges of the country."—*Major J. W. Powell*, Smithsonian Institution, Washington, D. C.

The Principles of Bacteriology.

By Dr. FERDINAND HUEPPE,

Professor of Hygiene in the University of Prague.

Translated from the German and annotated by *Edwin O. Jordan*, Ph. D., Assistant Professor of Bacteriology in the University of Chicago. 28 Cuts. 5 Colored Plates. Pp. 465. Price, $1.75 (9s.).

Invaluable Information for the Physician, Scientist, and General Reader.

"It is the work of a master of the subject, who is not only a scientific man in the sense of being an observer, but also in the sense of having a truly philosophical mind."—*The Lancet*, London.

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

VERLAG VON O. R. REISLAND

IN LEIPZIG

Vierteljahrsschrift für wissenschaftliche Philosophie, gegründet von *Richard Avenarius*, in Verbindung mit *Ernst Mach* und *Alois Riehl*, herausgegeben von PAUL BARTH.

Die *Vierteljahrsschrift für wissenschaftliche Philosophie* tritt mit dem soeben erschienenen ersten Hefte in ihren 24. Jahrgang.

Die *Vierteljahrsschrift für wissenschaftliche Philosophie* erscheint Anfang Februar, Anfang Mai, Mitte Juli und Anfang November.

Preis des Jahrgangs von mindestens 32 Bogen M. 12.—. Einzelhefte M. 4.—. (Hierdurch werden frühere Preisangaben für den Bezug von Einzelheften aufgehoben.)

Anzeigen, im Preis von 20 Pf. die durchlaufende Petitzeile Raum, werden durch die Verlagsbuchhandlung und die Annoncen Expeditionen angenommen. Beilagen je M. 12.—.

Die Philosophie der Geschichte als Sociologie, von *Dr. Paul Barth*, Privatdocenten an der Universität zu Leipzig. I. Band. 1897. 25 Bogen gr. 8°. M. 8.—.

Dem Verfasser ist Philosophie der Geschichte gleichbedeutend mit Wissenschaft der Geschichte, und diese wiederum, da nur sociale Erscheinungen wahrhaft geschichtliche sind, nicht verschieden von konkreter Sociologie. Alle sociologischen Systeme, meist im Auslande entstanden, sind zugleich geschichtsphilophische Versuche. Er giebt davon, mit Saint-Simon und Comte beginnend, eine kritische Uebersicht, die bisher fehlte, desgleichen eine kritische Zusammenstellung der noch wirksamen einseitigen Geschichtsauffassungen, der ethnologischen, ideologischen, der ökonomischen, des Marxismus und anderer Richtungen und schliesst mit einer vorläufigen Skizze seiner eigenen Ansicht, die auch in der Kritik schon überall hervortritt. Für Philosophen, Geschichtsforscher und Geschichtslehrer, Nationalökonomen, Juristen, praktische und theoretische Politiker dürfte dieses Werk von mannigfachem Interesse sein.

System der Werttheorie. Von *Christian v. Ehrenfels.* I. Band. Allgemeine Werttheorie, Psychologie des Begehrens. 1897. gr. 8°. (XXIII u. 277 Seiten). Preis M. 5.—. II. Band. Grundzüge einer Ethik. 1898. gr. 8°. (VIII u. 270 Seiten.) Preis M. 5.—.

Das Werk bietet in den beiden bis nun erschienenen Bänden eine empirisch-psychologisch begründete allgemeine Theorie des menschlichen Wertschätzens und seiner Entwicklungsgesetze, sowie deren Anwendung speciell auf das ethische Fühlen und Urteilen, und sucht hiermit für streng wissenschaftliche Betrachtung der grossen Entwicklungsprobleme unserer Zeit eine sichere Basis zu schaffen.

REVUE PHILOSOPHIQUE

DE LA FRANCE ET DE L'ÉTRANGER

Dirigée par TH. RIBOT, Professeur au Collège de France.

(25e année, 1900.)

Paraît tous les mois, par livraisons de 7 feuilles grand in-8, et forme chaque année deux volumes de 680 pages chacun.

Prix d'abonnement :

Un an, pour Paris, 30 fr.—Pour les départements et l'étranger, 33 fr.
La livraison..... 3 fr.
Les années écoulées, chacune 30 francs, et la livraisons, 3 francs.

La REVUE PHILOSOPHIQUE n'est l'organe d'aucune secte, d'aucune école en particulier.

Tous les articles de fond sont signés et chaque auteur est responsable de son article. Sans professer un culte exclusif pour l'expérience, la direction, bien persuadée que rien de solide ne s'est fondé sans cet appui, lui fait la plus large part et n'accepte aucun travail qui la dédaigne.

Elle ne néglige aucune partie de la philosophie, tout en s'attachant cependant à celles qui, par leur caractère de précision relative, offrent moins de prise aux désaccords et sont plus propres à rallier toutes les écoles. La *psychologie*, avec ses auxiliaires indispensables, l'*anatomie* et la *physiologie du système nerveux*, la *pathologie mentale*, la *psychologie des races inférieures et des animaux*, les *recherches expérimentales des laboratoires;*—la *logique;*—les *théories générales fondées sur les découvertes scientifiques;*—l'*esthétique;*—les *hypothèses métaphysiques*, tels sont les principaux sujets dont elle entretient le public.

Plusieurs fois par an paraissent des *Revues générales* qui embrassent dans un travail d'ensemble les travaux récents sur une question déterminée : sociologie, morale, psychologie, linguistique, philosophie religieuse, philosophie mathématique, psycho-physique, etc.

La REVUE désirant être, avant tout, un organe d'information, a publié depuis sa fondation le compte rendu de plus de quinze cents ouvrages. Pour faciliter l'étude et les recherches, ces comptes rendus sont groupés sous des rubriques spéciales : anthropologie criminelle, esthétique, métaphysique, théorie de la connaissance, histoire de la philosophie, etc., etc. Ces comptes rendus sont, autant que possible, impersonnels, notre but étant de faire connaître le mouvement philosophique contemporain dans toutes ses directions, non de lui imposer une doctrine.

En un mot, par la variété de ses articles et par l'abondance de ses renseignements elle donne un tableau complet du mouvement philosophique et scientifique en Europe.

Aussi a-t-elle sa place marquée dans les bibliothèques des professeurs et de ceux qui se destinent à l'enseignement de la philosophie et des sciences ou qui s'intéressent au développement du mouvement scientifique.

REVUE HISTORIQUE

Dirigée par G. MONOD

Membre de l'Institute, maître de conférences à l'Ecole normale
Président de la section historique et philologique à l'Ecole des hautes études

(25e année, 1900.)

Paraît tous les deux mois, par livraisons grand in-8° de 15 feuilles et forme par an trois volumes de 500 pages chacun.

Chaque livraison contient :

I. Plusieurs *articles de fond*, comprenant chacun, s'il est possible, un travail complet.—II. Des *Mélanges et Variétés*, composés de documents inédits d'une étendue restreinte et de courtes notices sur des points d'histoire curieux ou mal connus.—III. Un *Bulletin historique* de la France et de l'étranger, fournissant des renseignements aussi complets que possible sur tout ce qui touche aux études historiques.—IV. Une *Analyse des publications périodiques* de la France et de l'étranger, au point de vue des études historiques.—V. Des *Comptes rendus critiques* des livres d'histoire nouveaux.

Prix d'abonnement :

Un an, pour Paris, 30 fr.—Pour les départements et l'étranger, 33 fr.
La livraison ..... 6 fr.
Les années écoulées, chacune 30 francs, le fascicule, 6 francs.
Les fascicules de la 1re année, 9 francs.

FÉLIX ALCAN, EDITEUR, 108 Boulevard Saint-Germain, PARIS, FRANCE.

Verlag von Wilhelm Engelmann in Leipzig

Neuigkeiten des Jahres 1900.

WUNDT, Wilhelm, Professor in Leipzig.

VOELKERPSYCHOLOGIE. Eine Untersuchung der Entwicklungsgesetze von Sprache, Mythus und Sitte.

Erster Band: Die Sprache, erster Teil. Mit 40 Textfiguren, gr. 8°, 40 Bogen. Preis, geheftet, M. 14, in Halbfranzband, M. 17.

Erster Band: Die Sprache, zweiter Teil. Mit 2 Textfiguren, gr. 8°, 40 Bogen. Preis, geheftet, M. 15, in Halbfranzband, M. 18.

KROELL, H., Dr. med. in Strassburg i. E.

DER AUFBAU DER MENSCHLICHEN SEELE. Eine psychologische Skizze. Mit 14 Textfiguren, gr. 8°, 25 Bogen. Preis, geheftet, M. 5, in Leinwandband, M. 6.

MANNO, Richard, Oberlehrer Dr. in Dortmund.

HEINRICH HERTZ—FÜR DIE WILLENSFREIHEIT? Eine kritische Studie über Mechanismus und Willensfreiheit, gr. 8°, 5 Bogen. Preis M. 1.50.

RIEHL, Alois, Professor in Halle a/S.

GIORDANO BRUNO. Zur Erinnerung an den 17. Februar 1600. Zweite, neu bearbeitete Auflage, gr. 8°, 4 Bogen. Preis M. 1.20.

SACK, J., in Heidelberg.

MONISTISCHE GOTTES- UND WELTANSCHAUUNG. Versuch einer idealistischen Begründung des Monismus auf dem Boden der Wirklichkeit, gr. 8°, 18 Bogen. Preis M. 5.

SCHOELER, Dr. Heinrich, in Leipzig.

PROBLEME. Kritische Studien über den Monismus, gr. 8°, 7 Bogen. Preis M. 2.

SCHWARZ, Hermann, Privatdocent in Halle.

PSYCHOLOGIE DES WILLENS. Eine Grundlegung der Ethik, gr. 8°, 25 Bogen. Preis M. 6.

STÖRRING, Gustav, Dr. phil. et med. in Leipzig.

VORLESUNGEN ÜBER PSYCHOPATHOLOGIE in ihrer Bedeutung für die *normale Psychologie* Mit Einschluss der psychologischen Grundlagen der Erkenntnisstheorie. Mit 8 Textfiguren, gr. 8°, 30 Bogen. Preis M. 9, in Leinwandband M. 10.

THE EDUCATIONAL REVIEW

is the

BEST ENCYCLOPÆDIA OF EDUCATION

Edited by

NICHOLAS MURRAY BUTLER

Twenty-first Volume — Eleventh Year

THE APRIL ISSUE, NOW READY, CONTAINS

Educational progress in Great Britain, by Sir Joshua Fitch; a lucid and striking account of the recent important developments in that country.

The San Francisco school system, by Prof. E. P. Cubberly of Stanford University; one of a series of articles on the leading city school systems, those on Chicago and Milwaukee having already appeared.

School reminiscences, second article, by Supt. James M. Greenwood of Kansas City, Mo., describing typical schools which the author has visited.

Bibliography of education for 1900, by J. I. Wyer, Jr., librarian of the University of Nebraska, and Miss Isabel Ely Lord, librarian of Bryn Mawr College. This invaluable annotated summary of the English and the American literature of education will be a leading feature of the Educational Review for April of each year.

Correspondence relating to reprints, special editions, advertising, and subscriptions, and all remittances, should be sent to the EDUCATIONAL REVIEW, Columbia University, New York

Ten Numbers, None Being Issued for July or August

$3 / 14s. 6d. } A Year — 35c. / 1s. 8d. } A Copy

EDUCATIONAL REVIEW PUBLISHING CO.

NEW YORK

Five Important Volumes Recently Published

Abraham Lincoln: His Book

A facsimile reproduction. Leather. 16mo. $1.00 net.

"I do not perceive," wrote Lincoln in 1858, "how I can express myself more plainly than I have in the foregoing. I have expressly disclaimed all intention to bring about social and political equality between the white and black races. I have made it equally plain that I think the negro is included in the word 'men' used in the Declaration of Independence."

The Philippines: THE WAR AND THE PEOPLE

Being a Record of Personal Observations and Experiences by ALBERT G. ROBINSON. Cloth, large 12mo. $2.00.

This book constitutes one of the most important contributions to first-hand sources of information concerning the Philippines. It is a clear, connected, and complete statement of what the author saw in the Philippines and what he thinks about what he saw there.

The Awakening of the East

By PIERRE LEROY-BEAULIEU. With an Introduction by Henry Norman. Cloth, 12mo. $1.50.

Under the divisions Siberia, China, and Japan, the author has traced the development of Asia from their golden age of long ago down to the modern present. He treats comprehensively the evolution of Japan, the astonishing development of Russia in Siberia, and the changes in China. "Altogether," says the *Nation*, "this is a very timely and very able book by an author who gathers without prejudice his facts at first hand."

An American Engineer in China

By WILLIAM BARCLAY PARSONS. Cloth, 12mo. $1.50.

"Mr. Parsons writes with great clearness, simplicity, and good sense, and in a spirit of reasonableness that will commend his book to all serious readers. It is full of first-hand information of a valuable character, enlivened and brightened by touches of humor and by anecdotes that make it readable throughout."—*New York Commercial Advertiser.*

The Great Boer War

By A. CONAN DOYLE. Cloth, 12mo. $1.50.

"A good view of the year's warfare, a thoroughly readable account of the transactions in their bearings upon one another, with vivid and not highly colored battles, and with a discussion of the causes and probable outcome of the war, which is moderate and generous in temper, judicial in praise and blame, and without a trace of rancor or mere partisanship."—*The Nation.*

McClure, Phillips & Co., New York

WORKS BY

SHADWORTH H. HODGSON

THE METAPHYSIC OF EXPERIENCE (1898).
4 Vols., 8vo, Buckram, $12.00.

OUTCAST ESSAYS [Literary] AND VERSE TRANSLATIONS (1881).
1 Vol., Crown 8vo, Half-roan, $3.00.

THE PHILOSOPHY OF REFLECTION (1878).
2 Vols., 8vo, Cloth, $7.50.

THE THEORY OF PRACTICE, an Ethical Enquiry (1870).
2 Vols., 8vo, Cloth, $8.75.

TIME AND SPACE, a Metaphysical Essay (1865).
1 Vol., 8vo, Cloth, $5.75.

LONGMANS, GREEN, AND CO.,
91 AND 93 FIFTH AVE., NEW YORK
LONDON AND BOMBAY

ESSAYS ON NUMBER

I. CONTINUITY AND IRRATIONAL NUMBERS.
II. THE NATURE AND MEANING OF NUMBERS.

By *Richard Dedekind*, Professor of Higher Mathematics in the Collegium Carolinum, Brunswick, Germany. Authorised Translation by *Wooster Woodruff Beman*, Professor of Mathematics in the University of Michigan. Pages, 115. Portrait of Dedekind. Red Cloth, 75 cents. (In the Press.)

CONTENTS

I. Continuity and Irrational Numbers: Properties of Rational Numbers; Comparison of the Rational Numbers with the Points of a Straight Line; Continuity of the Straight Line; Creation of Irrational Numbers; Continuity of the Domain of Real Numbers; Operations with Real Numbers; Infinitesimal Analysis.

II. The Nature and Meaning of Numbers: Systems of Elements; Transformation of a System; Similarity of a Transformation. Similar Systems; Transformation of a System in Itself; The Finite and Infinite; Simply Infinite Systems. Series of Natural Numbers; Greater and Less Numbers; Finite and Infinite Parts of the Number-Series; Definition of a Transformation of the Number-Series by Induction; The Class of Simply Infinite Systems; Addition of Numbers; Multiplication of Numbers; Involution of Numbers; Number of the Elements of a Finite System.

THE OPEN COURT PUBLISHING CO., CHICAGO
LONDON: KEGAN PAUL, TRENCH, TRÜBNER & CO.

VOL. XI. No. 4. JULY, 1901.

THE MONIST

A QUARTERLY MAGAZINE

Devoted to the Philosophy of Science

Editor: Dr. Paul Carus,
Assistant Editor: T. J. McCormack.

Associates: E. C. Hegeler, Mary Carus.

CONTENTS:

PAGE

The Earliest Chapter of History.
PROF. JAMES A. CRAIG - - - - - - - - - 481

The Fairy-Tale Element in the Bible.
EDITOR - - - - - - - - - - - 500

The Contents of Religious Consciousness.
PROF. JAMES H. LEUBA - - - - - - - - 536

The Authenticity of the Tao Teh King.
EDITOR - - - - - - - - - - - 574

Literary Correspondence.
France.
LUCIEN ARRÉAT - - - - - - - - - - 602

Criticisms and Discussions.
Lao-Tze and Professor Giles.
TEITARO SUZUKI - - - - - - - - - 612

A History of Chinese Literature.
THE REV. GEORGE T. CANDLIN - - - - - - 617

Book Reviews. [For particulars see inside title-page.] - - - - - 628

CHICAGO:

THE OPEN COURT PUBLISHING CO.

Price, 50 cts.; Yearly, $2.00.

LONDON: Kegan Paul, Trench, Trübner & Company, Limited.

In England and U. P. U., half a crown; Yearly, 9s 6d.

Copyrighted, 1901, by the Open Court Publishing Co. Entered at the Chicago Post Office as Second-Class Matter.

ESSAYS ON NUMBER

I. CONTINUITY AND IRRATIONAL NUMBERS.
II. THE NATURE AND MEANING OF NUMBERS.

By *Richard Dedekind*, Professor of Higher Mathematics in the Collegium Carolinum, Brunswick, Germany. Authorised Translation by *Wooster Woodruff Beman*, Professor of Mathematics in the University of Michigan. Pages, 115. Portrait of Dedekind. Red Cloth, 75 cents. (Just published.)

CONTENTS

I. Continuity and Irrational Numbers: Properties of Rational Numbers; Comparison of the Rational Numbers with the Points of a Straight Line; Continuity of the Straight Line; Creation of Irrational Numbers; Continuity of the Domain of Real Numbers; Operations with Real Numbers; Infinitesimal Analysis.

II. The Nature and Meaning of Numbers: Systems of Elements; Transformation of a System; Similarity of a Transformation. Similar Systems; Transformation of a System in Itself; The Finite and Infinite; Simply Infinite Systems. Series of Natural Numbers; Greater and Less Numbers; Finite and Infinite Parts of the Number-Series; Definition of a Transformation of the Number-Series by Induction; The Class of Simply Infinite Systems; Addition of Numbers; Multiplication of Numbers; Involution of Numbers; Number of the Elements of a Finite System.

THE OPEN COURT PUBLISHING CO., CHICAGO

LONDON: KEGAN PAUL, TRENCH, TRÜBNER & CO., LTD.

TO FLORIDA through Pullman Vestibule Limited via

MONON ROUTE

CHICAGO, INDIANAPOLIS & LOUISVILLE RAILWAY

and C. H. & D. R'W'Y. Carries Sleepers, Dining Car, Library, and Observation Car.

The Most Elegant Train from Chicago

Leaves Dearborn Station every Monday and Thursday Noon, running through to Jacksonville and St. Augustine without change.

Four trains to Indianapolis and Cincinnati daily.

CITY TICKET OFFICE,

232 Clark St. Chicago, Ill.

AMERICA'S MOST POPULAR RAILROAD

C&A C&A C&A C&A

CHICAGO AND ALTON RAILROAD.

C&A C&A C&A C&A

PERFECT PASSENGER SERVICE BETWEEN

CHICAGO AND KANSAS CITY.
CHICAGO AND ST. LOUIS.
CHICAGO AND PEORIA.
ST. LOUIS AND KANSAS CITY.

Through Pullman service between Chicago and

HOT SPRINGS, Ark., DENVER, Colo.,
TEXAS, FLORIDA, UTAH,
CALIFORNIA AND OREGON.

If you are contemplating a trip, any portion of which can be made over the Chicago & Alton, it will pay you to write to the undersigned for maps, pamphlets, rates, time-tables, etc.

GEO. J. CHARLTON,
General Passenger and Ticket Agent,
CHICAGO, ILLINOIS.

VOL. XI. No. 4. JULY, 1901.

THE MONIST

A QUARTERLY MAGAZINE

Devoted to the Philosophy of Science

Editor: DR. PAUL CARUS.
Assistant Editor: T. J. MCCORMACK.
Associates: E. C. HEGELER. MARY CARUS.

CONTENTS:

PAGE

THE EARLIEST CHAPTER OF HISTORY.
PROF. JAMES A. CRAIG - - - - - - - - - 481

THE FAIRY-TALE ELEMENT IN THE BIBLE.
EDITOR - - - - - - - - - - - - - 500

THE CONTENTS OF RELIGIOUS CONSCIOUSNESS.
PROF. JAMES H. LEUBA - - - - - - - - 536

THE AUTHENTICITY OF THE TAO TEH KING.
EDITOR - - - - - - - - - - - - - 574

LITERARY CORRESPONDENCE.
France.
LUCIEN ARRÉAT - - - - - - - - - - 602

CRITICISMS AND DISCUSSIONS.
Lao-Tze and Professor Giles.
TEITARO SUZUKI - - - - - - - - - - 612
A History of Chinese Literature.
THE REV. GEORGE T. CANDLIN - - - - - - 616

BOOK REVIEWS - - - - - - - - - - - - - 628

Maine de Biran. *A. Kühtmann*, p. 628.—René Descartes's Meditationes. *C. Güttler*, p. 631.—Dix années de philosophie. *L. Arréat*, p. 632.—L'Année Biologique. *Yves Delage*, p. 632.—La suggestibilité. *A. Binet*, p. 633.—Œuvres philosophiques de Leibnitz. *P. Janet*, p. 634.—The Philosophy of Religion in England and America. *A. Caldecott*, p. 634.—Brahman: A Study in the History of Indian Philosophy. *H. DeWitt Griswold*, p. 635.—The Philosophy of Friedrich Nietzsche. *G. N. Dolson*, p. 635.—Friedrich Nietzsche, der Philosoph und der Prophet. *O. Stock*, p. 635.—Politics and the Moral Law. *G. Ruemelin*, p. 636.—A Treatise Concerning the Principles of Human Knowledge. *George Berkeley*, p. 637.—Three Dialogues Between Hylas and Philonous. *George Berkeley*, p. 637.—An Enquiry Concerning the Principles of Morals. *David Hume*, p. 637.—The Classical Heritage of the Middle Ages. *H. O. Taylor*, p. 637.—Die Mechanik in ihrer Entwickelung. *E. Mach*, p. 638.—Neue Theorie des Raumes und der Zeit. *M. Palágyi*, p. 638.—Grazie und Grazien in der deutschen Litteratur des 18. Jahrhunderts. *F. Pomezny*, p. 639.—Der Gesang der Vögel. *V. Hücker*, p. 639.—Das Bewusstsein der Aussenwelt. *R. Eisler*, p. 640.—Note on Professor Mach's forthcoming articles, p. 640.

CHICAGO:
THE OPEN COURT PUBLISHING COMPANY.
1901.

COPYRIGHT BY
THE OPEN COURT PUBLISHING CO.
1901

VOL. XI. JULY, 1901. No. 4.

THE MONIST

THE EARLIEST CHAPTER OF HISTORY.

THE author of *Early Babylonian History*,[2] Dr. Radau, partly apologises in his preface for attempting anew the presentation of early Babylonian life in view of the works already before us from the hands of other scholars. The only late history dealing with Babylonia, however, is Winckler's *Das alte Westasien*, 1899, and that work scarcely touches upon the early period, while to the fourteen centuries between Sargon I. (whom Winckler assigns to 3000 B. C., instead of 3800 B. C., to which in my judgment he belongs) and the rise of the first dynasty of Babylon he devotes only four pages. *Light from the East* by Ball, 1899, is rather a collection and application of material from Babylonian, Assyrian, Egyptian, and other sources bearing upon the study of the Bible. It is in no sense a history of Babylonia, nor does it pretend to be. Cults, custom, and art rather than history stand in the foreground in Maspero's *Dawn of Civilization* (1895). The other histories worthy of note, Mürdter's, Meyer's, Winckler's *Geschichte*, Tiele's, Hommel's (Rogers' *Outlines* is based almost entirely upon Winckler and Hommel[1]) were written from ten to sixteen years ago, and all of them are in need of revision and correction.

Dr. Radau's work is, therefore, far from being in a field already

[1] *Early Babylonian History to the End of the Fourth Dynasty of Ur.* To which is Appended an Account of the E. A. Hoffmann Collection of Babylonian Tablets in the General Theological Seminary, New York, U. S. A. By the Rev. Hugo Radau, A. M., B. D., Ph. D. New York, Oxford University Press, American Branch, 1900.

[2] A history of Babylonia and Assyria in two vols., by Rogers, appeared in 1900.

exhausted. It is, on the contrary, one which has been only partially touched upon by some, and wholly ignored by other, historians. The new material which is coming to the hand of the historian as the result of new discoveries, and the more thorough understanding and exploitation of the old, relieves every fresh attempt to describe the history of the earliest millenniums of the danger of an unwelcome reception. Especially is this the case when the author undertakes a scientific work rather than a popular one. And this Dr. Radau has done even "*presupposing some knowledge of the grammar of the Sumerian language by the reader.*" Furthermore he calls upon every reader to be himself the historian in a very important particular since he leaves the deductions from the facts furnished by the documents to be drawn, for the most part, by the reader avoiding them himself "as far as possible." The original historical texts alone come under consideration and these he presents in transliteration accompanied by a translation with numerous footnotes in explanation of difficult words or containing references to other documents or works. Inserted between pages 30–31 is a large chronological chart giving the kings of Kengi, Kish, Lagash, Gish-Uch, Ur, Akkad, Guti, Lulubu, Erech, Isin, Larsa, Babylon, and their dates, as approximately and in some cases tentatively, determined by the author. Between pages 8 and 9 a comparative table of archaic signs selected from the inscriptions down to the time of Ur-ba'u is inserted to enable the reader to judge for himself of the relative dates of the inscriptions from palæographic evidence.

The question of early Babylonian chronology has been for long a vexed question among Assyriologists. The difficulty in the way of determining the dates for the period prior to the rise of the first dynasty of Babylon, *circa* 2400 B. C., is due to the paucity of historical documents and the hesitancy on the part of some scholars to accept the chronological data given by later kings in their historical inscriptions. Fortunately for the history of Assyria and Babylonia as a whole a trustworthy source was discovered in the early years of Assyriological study. This was the Assyrian *eponym Canon*, as it was called by George Smith. It consisted of lists of

officers beginning with the king and followed by the other chief officers according to rank, viz., the tartan, the commander-in-chief, chief of musicians, master of the royal body-guard (=*nāgir ekalli*), etc., though not always in the same order. To these were added governors of certain cities and countries. During the reign of Ramman-nirāri III., 810–782, there were twenty-eight officials who held the office after the king. The briefer canons give only the names of these archons in the order of their succession. The completest in historical information gives, in addition the name of the official, his office, and also a statement of some noteworthy event, or events, which occurred during the year of his archonship. For example, we have for the year 745 the following statement from the restored Canon C^{b}:

ina li-mi	Nabu-bēl-utsur	sha alu Arba-chu	ina archi Airu ûmu xiii
		Tukulti-pal-esharra	ina kussi it-ta-shib
		ina archi Tashrit / a-na bi-rit nari	it-ta-lak
.....	.....	.....	.....
During the Archonship of	Nabu belutsur	of the city of Arbacha,	in the month Airu, on the 13th day,
		Tiglathpileser	the throne ascended.
		In the month Tish-ri / to the midst of the stream	he marched.

The Assyrian kings dated their inscriptions, usually, by these eponyms, thus: *ina limi Nabu-bel-utsur*. Sometimes, however, as in the case of Shalmaneser II., on the black obelisk, they dated the events according to the years of their own reign, thus: "in the first year of my reign," "in the second year of my reign," "in the third year, etc." But Shalmaneser instead of saying "in the fourth year of my reign" uses the *eponym* method of reckoning and writes "in the eponym of Dān-Ashur."

The starting-point of Assyrian chronology was furnished by the canon from which the above quotation is taken.

Nineteen lines preceding the eponym of *Nabu-bel-utsur* we read:

"*ina* li-mi | Pur-(an)-sa-gal-e | sha ālu Gu-za-na si-chu ina āl Ashur | i-na archi Simanu shamash atalā ishtākan."

"In the archonship of Pur(an)sagale of the city of Gozan a revolt in the city of Ashur. In the month of Sivan there was an eclipse of the sun."

By the help of the "table of reigns" of Claudius Ptolemy, who in addition to his other scientific works wrote a chronological table of Assyrian, Persian, Greek, and Roman sovereigns, it was determined that the eponym of Pur(an)sagale must have fallen in the year 763 B. C. The question of the reliability of the Assyrian Eponym Canon could easily be tested by a simple astronomical computation to ascertain whether the recorded eclipse of the sun took place in Assyria in that year. The computation proved the correctness of the record. An almost total eclipse (more than $\frac{11}{12}$ of the diameter) of the sun took place on the forenoon of June 15th, 763. This date has been accepted by all Assyriologists except Oppert who from the first contended for that of June 13, 809, when another eclipse is known to have occurred which lasted at Nineveh twelve minutes longer. He has lately endeavored to establish his contention in the *Proceedings of the Society of Biblical Archæology*, 1898, but with arguments which are not likely to prove conclusive to any one but himself, and which are advanced principally, as it seems, in the interest of an Old Testament chronology that cannot be brought into harmony with that established by the historical records of Assyria. Pur(an)sagale was eponym during the eighth year of Ashurdān, the King of Assyria, who, accordingly, must have ascended the throne in 771 B. C.

The date of one of the kings having been found, it is an easy matter to determine the dates of the others who appear as eponym in the canons and, afterwards, the majority of others known fro the inscriptions. In this we are aided by the synchronous histo of Assyria and Babylonia, by royal lists drawn up by Assyria scribes, and the numerous chronological and genealogical notice The opening words of a royal inscription usually give the name the king's father and grandfather when the king is in the line royal descent. Rammān-nirari, 911–890 (the eponym lists go ba to 893), styles himself King of Kings, King of Assyria, the *son* Ashur-dān, King of Assyria, the son of Tiglathpileser . . . King Assyria. Shalmanesear II. (860–825) tells us that he is the so

Ashurnatsirpal and the grandson of Tukulti-Adar. Sennacherib, in the inscription which he caused to be cut on the rocks at Bavian, records his rescue of the gods Rammān and Sala which Marduk-nadinache, in the time of Tiglathpileser I., had carried away from Assyria 418 years before.

Having determined the date of Ashurdān, a starting-point was reached for the determination of all the kings. The date of Nabunâ'id was found to be 555–539 B. C. Nabunâ'id in one of his inscriptions makes a very important chronological statement bearing upon the question of the chronology of the early period. It may be of interest to quote it:

"For Shamash, the judge of heaven and earth, Ebarra, his temple, which is in Sippar, and which Nebuchadrezzar, a former king, had built (rebuilt), and whose old foundation stone he had sought but had not found,—that temple he had built and in forty-five years the walls of that temple had fallen. I became terrified, I took off (my royal robe),[1] I became contrite, my face was sad. While I caused the god Shamash to go forth from within it (and) made him to dwell in another temple, I pulled down that temple and searched for its old foundation stone. Eighteen cubits of earth I excavated, and the foundation stone of Naram-Sin, the son of Sargon, which no other of my royal predecessors had seen for 3200 years, the god Shamash, the great lord of Ebarra, the temple in which his heart delighted, caused me to see."

In a smaller inscription of this king, found upon four cylinders which were immured in the corners of the temple of the moon-god (Sin) in Mugheir (Ur of the Chaldees), we have a very good proof of this king's zeal for antiquarian and archæological research. Here

[1] This word *ash-chu-ut* is translated by Radau "humble," following Peiser (in *K. B.*, III., 2, p. 103). Latrille, who was the first to give a scientific version of the inscription in the *Zeitschrift für Keilschriftforschung*, II., translates it by *niedersinken*, "sank nieder." But the word does not mean to sink down, but to lay aside, to remove, to tear or pluck off or out. It is used of taking off a *tiara*, of removing a garment, as in the well-known bilingual prayer, IV. R. 10, 44. "*Gil-la-tu-a ma-'-da-a-ti ki-ma zu(su)-ba-ti shu-khu-ut*, i. e., my many transgressions like a garment remove." So, also, elsewhere. Hence its use "to flay." That it is to be taken in the sense of "remove the robe" here cannot be doubted. It corresponds to the phrase ויעבר אדרתו in Jonah iii. 6. When the king of Nineveh heard of the threatened destruction of Nineveh, we are told that "he arose from his throne *and laid aside his mantle* and put on sack-cloth and sat in the dust." So in the case of Nabunâ'id. He probably does not speak of himself alone, but of a service of humiliation observed before the work of reconstruction was begun.

Nabunâ'id tells us that he restored the stepped-tower of the temple Igishshirgal which was in Ur. This tower he tells us Ur-Gur had built but not completed and that the completion of the work was effected by his son Dungi. This information which seems to have been given to remove an error prevailing at the time and previously, viz., that Ur-gur had completed the tower, Nabunâ'id informs us he obtained from the inscriptions of Ur-Gur and Dungi. "In the inscription," so run Nabunâ'id's words, "of Ur-Gur and of Dungi, his son, I found that Ur-Gur had built that tower but had not completed it. Dungi, his son, completed the work upon it."

It is important to note that the last king of Babylon was well aware that these records were to be found in the corners of the temples, in other words, that the practice of immuring documents at this early period, the third or fourth millennium B. C., was well known. We have a number of brief "inscriptions from these kings which refer chiefly to the temples which they built. Ur-Gur built the temple of Te-imila in Ur to the moon-god, the temple Eanna to Ishtar of Erech, one for the sungod at Larsa, one for Beltis in Nippur, and rebuilt there the temple of Bel which owed its construction, in the first place, to Sargon I. Dungi, his son, in addition to others of which his inscriptions speak, built a temple to Nergal in the city of Cutha. Appended to the inscription from which we learn this fact is a note which tells us that it was copied from an old original. The original is given in archaic characters, the note in New Babylonian, and the name of the scribe Bel-uballiṭ is added.

Asurbanipal (668–626 B. C.) in his annals relating to his victorious expedition against Ummanaldash, King of Elam, says that when he plundered Susa he brought back the statue of the goddess Nana which had been there 1635 years. In another text of the same king we are informed that the statue was carried away by the Elamite Kudurnanchundi. The conquest of Susa was effected in Asurbanipal's eighth expedition, *circa* 640 B. C., which gives us the date *circa* 2275 for the invasion of Babylonia by the Elamites under Kudurnanchundi.

All of this shows how possible it was for the kings of the later

Babylonian kingdom to have very accurate knowledge of the history of the earliest times. It further establishes a very strong presumption in favor of the correctness of the date assigned to Naram-Sin, viz., 3200 years before his own time, or 3750 B. C., which would give *circa* 3800 B. C. for his father Sargon I. At the time, however, that the inscription of Nabunâ'id was discoverd, in 1883, it was difficult for some scholars to admit an advanced state of civilisation at this remote date,[1] and especially so as the conquests ascribed to Sargon were not confined to Babylonia but were said to have extended far and wide, reaching to Asia Minor and even to Cyprus.

The majority of Assyriologists accepted the date, but Meyer in his *Geschichte des Alterthums*, Bd. I., S. 162, casts doubt upon its authenticity; Justi, *Geschichte der orientalischen Völker*, etc., S. 518, assigns Sargon I. to 1900 B. C.; Winkler in Helmolt's *Weltgeschichte*, Bd. III., S. 11 (1889), to *circa* 3000. Lehman has gone about the matter in heroic fashion by correcting Nabunâ'id's 3200 to 2200. C. Niebuhr in his *Chronologie der Geschichte Israels* (1896), S. 75, regards the inscriptions of these kings as later priestly productions and the kings as mythical creations. A story which has been preserved in late Assyrian of Sargon's birth and miraculous preservation and final exaltation to the throne, which reminds us involuntarily of the tale of Moses and of Perseus, afforded ground for this suspicion. The story runs: "Sargon, the mighty King, King of Agadè, am I. My mother was a princess, my father I did not know. The brother of my father dwelt in the mountains. In my city Azupirani which is situated on the shore of the Euphrates my mother conceived me and brought me forth in secret. She

---

[1] Winkler, *Revue d'assyriologie et d'archéologie orientale*, 1889, p. 64, in speaking of the character of the writing of two of Sargon's inscriptions, says: "Man muss, wenn man beide identificirt *für eine uralte Zeit, eine Vollendung der Technik* annehmen, die einen stutzig machen muss. . . . Beide sind von einer Sauberkeit der Ausführung, wie sie der geschickteste Arbeiter heute mit den vollkommensten Instrumenten kaum besser herzustellen vermöchte." I quote this merely to show how difficult it is for modern historians, among whom Winkler holds high rank, to overcome their reluctance to admit so high a degree of development among the Babylonians almost 4000 B. C.

placed me in a wicker basket (?) and sealed up the door with pitch. She placed me upon the stream which did not flow over me. The stream brought me to Akki the water-man (probably chief of irrigation). Akki in the kindness of his heart took me out and appointed me as gardener. During my office as gardener the goddess Ishtar loved me," that is, he became king. The rest of the story is unfortunately fragmentary.

The recent discoveries bearing upon the question are connected with the excavations at Nippur which have been carried on by the University of Pennsylvania. Mr. Haynes, the enthusiastic and indefatigable excavator, discovered under the crude brick platform of Ur-Gur under the stage-tower another pavement of two courses of burned brick uniform in size and mould. The brick are *circa* 50 cm. square and 8 cm. thick. They differ from all others, of which there are about twenty-five different kinds, found at Nippur. Many of them bear the inscription of Shar-ga-ni-shar-āli, the rest the inscription of Naram-Sin. The former read:

Shargani sharāli	bagim
shar	bit
Agadeki	an enlil

hat is, "Shargani-shar-āli, the King of Agade, the builder of the temple of the god Bel."

The inference to be drawn naturally from the position in which they were found is that these rulers preceded Ur-Gur, and from the fact that the brick bearing the names of Shargani-shar-āli and Narām-Sin were mixed together in these layers it is further to be inferred that these kings were probably closely associated, but this inference is the more probable in the light of Nabunâ'id's statement. But it is most reasonable to suppose that the pavement was originally constructed by Sargon, and afterwards taken up for some reason by Narām-Sin who, in reconstructing it to suit his own purposes, built in some of the bricks of his father.

Another discovery was made in connexion with the outer wall of the city. The upper part of the wall was built by Ur-Gur. The lowest part of the wall which rested upon solid clay at a depth of 5 m. below the plain is built up of wrought clay mixed with straw to a height of 5.5 m. and has a width of 13.75 m. Upon this foundation the wall was carried upwards to an unknown height by means of sun-dried brick which bear the name of Narām-Sin. The details given by Hilprecht which are based upon Mr. Haynes' report are not sufficiently explicit in some cases, but in the quotation given from Haynes the latter says: "Directly upon this foundation Naram-Sin began to build his wall 10.75 m. wide *and six* courses high. Winkler says that in this instance there was only *one* layer,[1] and because of this and the mixture of Sargon's and Narām-Sin's brick in the Ziggurat he sees in the facts just stated a confirmation of Niebuhr's opinion, and apparently regards the manufacture of these bricks as the work of a later king under priestly influence for the purpose of establishing the antiquity of the temple.

This explanation does not commend itself to my judgment, and I call attention to it here in connexion with these important facts which Dr. Radau has omitted from his discussion though they have a very important bearing upon it. Ur-Gur is usually assigned to the first part of the third millennium, and by Radau to 3200 B. C. Narām-Sin must, therefore, precede him. The fact, however, that the wall of the latter was immediately surmounted by that of Ur-Gur would not, at first glance, dispose one to separate the two rulers by a period of several hundred years, and it is this consideration, doubtless, which has influenced Winckler in his latest work to assign Sargon to the period *circa* 3000 B. C. But the wall and the tower may both have fallen so far into decay that it was necessary for Ur-Gur to remove the debris to this depth. The possibility even that kings prior to Ur-Gur may have built upon them is not excluded. There is, however, no evidence of this, nor is the assumption necessary. Various hypotheses might

---

[1] "Man bedenke dazu, dass es sich um nur zwei, und im andern Fall um eine Schicht handelt!"—*Forschungen*, 5, S. 378.

be advanced, but the wisest course is to allow the statement of Nabunâ'id in view of all the facts.

As we have seen, however, the name of the father of Narām-Sin as given by Nabunâ'id is Shar-ge-na, whereas the name on the inscriptions is Shar-ga-ni-shar-āli. The question has arisen: Are these two names different forms applied to the same person, or are they different names of two kings? Though the inscriptions of Shar-ga-ni-shar-āli tell us he was King of A-ga-de, Nabunâ'id does not say even that Shar-ge-na was king. Hommel divided the longer name making the *shar-ali* a title (=king of the city, *Geschichte*, S. 302), thus facilitating the identification. Moreover, in the illustration of the seal cylinder, S. 12, he puts a dividing line between the two parts of the name which does not exist on the original. Oppert denied the identity; but Hilprecht reasoned plausibly for it, on the grounds that abbreviations were common during the last two thousand five hundred years of Babylonian history, that therefore the probability is that the shorter name is an abbreviation of the longer; that, further, the abbreviation having been made to Shar-ga-ni this was changed by a popular etymology, when the original meaning of the name had been forgotten, to Shar-gi-na (i. e., Sharru-kênu), "the true king."

The final step in proof of the identity of the two names is found in two short inscriptions published by Leon Heuzey four years ago. One of these reads: "Sharganisharāli, the mighty king of Agade, Lugalushumgal, patesi of Shirpula, is thy servant." The other reads: "Naram-Sin the mighty god of Agade, king of the four regions, Lugalushumgal, the scribe, patesi of Shirpurla, is thy servant." Lugalushumgal was, therefore, scribe under both kings. Consequently, they were successive rulers, and, if so, the royal father and son referred to by Nabunâ'id. And since Nabunâ'id had before him the originals, or copies of the tablets of Ur-Gur and his son Dungi, there is no ground for doubting his knowledge of the history and times of their more remote predecessors Sargon and Narām-Sin. There is no sound reason remaining for reducing the date given by this last king of Babylon who was at least eager

in the pursuit of antiquarian and archæological research, though unwise in the administration of affairs of state.

Turning now to the determination of the dates of the other early rulers recourse must be had to the somewhat precarious argument furnished by palæography. Selecting a dozen characteristic signs to be found in the inscriptions from the earliest times down to Ur-bau, and using the contract tablets of the time of Sargon I. as a basis for comparison, Dr. Radau divides the early rulers into three periods, viz.:

1. From the oldest times down to Urukagina.
2. From Urukagina to Lugalzaggisi.
3. From Lugalzaggisi to Ur-Bau.

Sargon I. falls within this third period, and Ur-Bau is later assigned to 3500 B. C. By the aid of the genealogical data furnished by the inscriptions and other *indicia* a chronological chart is made out beginning with Enshagkushanna prior to 4500 B. C. Next in order is Urukagina, king of Lagash, B. C. 4500. The chart includes about eighty rulers and closes with Chammurabi (2318–2288 B. C.), the illustrious king of the first dynasty of Babylon and the real founder of the Babylonian Empire.

The inscription of Enshagkushanna, the oldest found on Babylonian soil, is preserved on three fragments of vases of white calcite stalagmite. The vases were not inscribed with exactly the same text, but the fragments permit of the restoration of the following inscription. "To the god Enlil king of the lands Enshagkushanna, lord of Kengi, king of . . . presented the spoil of Kish, wicked of heart." The record testifies to war, worship, and art. If we could accept Professor Hilprecht's analysis of the word Kengi into *ki* land, + *e* = canal, + *gi* = reed, and interpret "the land of canals and reeds," the text would furnish evidence of a system of irrigation. This explanation, however, is very doubtful, but from other sources the evidence is at hand for a period not far removed from this. Urukagina, approximately of the same date, speaks of a canal which he built for his goddess Ninā, whom he worshipped in addition to Enlil (or Bêl) and other deities. Whether Enshagkushanna was of Sumerian or Semitic birth it is impossible to say, though

the inscription is written in the old Sumerian language. Kengi, or southern Babylonia and Kish (northern Babylonia) had already become involved in a struggle for supremacy which lasted for several centuries. The capital of Kengi at this time was Shirpula, which seems to have been an ancient Kiryath-arba (or city of four) on Babylonian soil, as it was made up of four separate parts, Girsu, Ninā, Uruazagga, and Erim which were dedicated by their founders to their chief deities. Enlil, to whom the spoil was presented, was the god of Nippur which, accordingly, belongs to this ancient period. Kish although it was defeated at this time rose again to power and under a later king Mesilim acquired sovereignty over Shirpurla (or Lagash) whose rulers were reduced to the subordinate position of *patesis*. But this sovereignty of Kish was not of long duration. About 4300 B. C. a new dynasty succeeded that of Urukaginà which lasted until *circa* 4100 B. C. Ur-nina, the founder who usurped the throne, found it necessary to adopt strong measures of defence, and so we read of his building the wall of Shirpurla. His inscriptions, however, speak mainly of the works of peace. He constructed temples to his gods, and various storehouses the exact nature of which is not definitely known.

Prior to this time another city called Gish-Uch,[1] the modern Djokha, and which consequently lay immediately north-north west of Shirpurla, appears upon the scene. As early as 4,400 B. C. (according to Radau's tentative chronology) the strife between this city centre in the north and Shirpurla had become so destructive, and the prospect of complete subjugation by either excluded by the progress of events, that Gish-Uch and Shirpurla, through the intervention of Nippur agreed to a peaceful settlement of their respective boundaries. Nippur, by some supposed to be the ancient Calneh, mentioned in connexion with Babel and Erech and Accad in Gen. x. 10, lay about sixty or seventy miles in the same northwesterly direction from Shirpurla as Gish-uch, and about midway between the later Babylon and Telloh (Shirpurla). The King of

[1] The name was read by Hilprecht Gish-Ban, "the city of the bow," and by him connected with Harran in Mesopotamia on the ground of a certain passage in Albîrûnî, and Sachau's sketch of the city.

Kish, who at this time held Shirpurla in vassalage, ruling over it by means of a governor (*patesi*), concurred in this determination of boundary and erected a statue on the line established for the purpose of confirming it for later generations. It would appear that this wise policy of settling their disputes, without recourse to the arbitrament of the bow and sword, emanated from the priesthood of Nippur. The inscription on the "Cone of Entemena" which records the events opens with the words: "The god Enlil, the king of the lands, the father of the gods, by his righteous command the god Ningirsu and the god . . . . marked off the boundary by a well. Mesilim, King of Kish, by the command of his god, Kadi, on the boundary of their territories, on that spot erected a statue."

This agreement made by the sanction of the gods and by accompanying religious and covenanting ceremonies was quickly set aside by the rapacity for territorial plunder on the part of the rulers of Gish-Uch. The statue of Mesilim was removed, and war broke out again between the city of the north and its southern neighbor on whose side the Kishites now cast their forces. The coalition resulted in the defeat of the northern invader. This defeat, however, was only temporary in its results. One hundred years later, or thereabouts, the sacred territory of Shirpurla was again invaded. Eannatum (or as otherwise read Edingiranagin), the grandson of Urnina, had in the meantime succeeded in fortifying the quarter of the city called Uruazagga. He was engaged at the time in war with Elam to the east and another neighbor over whom he proved victorious. The forces of Gish-Uch then fell under his yoke, the sacred territory was recovered, a canal was dug from the river Euphrates stretching across the northern line of the sacred territory, thus separating it from its neighbor and effecting a permanent delimitation. Upon this canal Eannatum erected his own statue, and restored to its place the statue of Mesilim, the former King of Kish. The ruler of Gish-Uch, was compelled to take oath in the name of the sun-god of Larsa never again to trespass this boundary.

It is interesting to notice that this covenant was celebrated by Eannatum by the sacrifice of two doves over which wine was poured,

and that young oxen were offered up in the temple of Shamash in Larsa. It is probable that both the contracting parties participated in the solemn ceremony and that through it the political compact was sealed. Other canals were dug by Eannatum and statues set up and sanctuaries constructed upon them in honor of his deities.

A generation had not passed away until this solemn covenant was ignored. Gish-Uch had recovered from the blow inflicted upon it and its new patesi renewed the attack. The boundary canals were recrossed, the statues removed, and the sanctuaries destroyed. It was left to the nephew of Eannatum to administer to this persistent enemy of Shirpurla a crushing defeat. In a battle waged on one of the canals sixty of the enemy fell. "The bones of their soldiers lay upon the field," and "in five different places" Entemena was compelled to bury the enemy's dead as he gave battle in pursuit until his victorious soldiers halted at the gates of Gish-Uch. A new patesi was appointed over the conquered state by the conqueror. This new ruler was required to build canals, probably to serve both as defensive boundaries and for irrigation, along the territory of Karkar, whose rulers had not refrained from expressions of hostility towards Shirpurla. In addition to the construction of this political and agricultural waterway a tribute of 360,000 Gur of corn was levied upon the vassal state. Counting by the later measure of Carchemish this would equal about 350,000 bushels. His ancestor Eannatum had previously exacted of them 1,400,000 bushels at one time according to this same reckoning. The canal which had been dug from the Euphrates to the sacred territory of Shirpurla, lying between the latter and Gish-Uch, Entemena continued until it joined the Tigris.

But Gish-Uch rose to power again, and greater power than that wielded by any of its former rulers under Lugalzaggisi, the son of the patesi, Ukhush. This was about 4000 B. C. He not only conquered Shirpurla but became king of Erech and reduced the whole of Babylonia, extending his sovereignty to the Persian gulf. Not only this, he carried his victorious arms north and westward to the shores of the Mediterranean, and with right assumed the title "king of the world." Peace reigned within his broad

borders. And since it was the god Enlil to whom he owed this unprecedented exaltation and power he bestowed upon the sanctuaries of his land a pious care. "Erech in delight he made to abound," Ur he exalted to the heavens, and Larsa, the beloved city of the sun-god, "he watered with waters of joy." The inscription closes with a prayer to Enlil: "Enlil, king of the lands, the god my beloved father, my (destiny?) may he decree, to my life may he add life. The land in peace may he cause to rest; the soldiery may he establish . . . . may the sanctuaries be his care; upon the world may he lift up mercifully his eye. A strong shepherd may I be forever."

This inscription is one of the thousands discovered by the expedition sent out from the University of Pennsylvania by its generous friends who have thereby brought an honor upon themselves and the institution which should stir American hearts with generous pride.

* * *

From this partial sketch of the earliest chapter of Babylonian history it may be seen how very far civilisation had advanced in this old culture-land at a period 4100 B. C. and earlier. We must further remember that in addition to the development of writing, the erection of temples to the gods, advance in agriculture etc., art had reached a high standard. This is proven by an exquisite work of art, a silver vase, rescued by De Sarzec from the debris of ancient Shirpurla whose king Entemena presented it for the altar in the sanctuary of Girsu as an expression of his devotion to his god. The plain implications of these important facts are too patent to need statement. The oldest records thus far recovered assure us that we have to deal here not with "the beginnings of civilisation," but with an advanced stage which in some points approaches a culmination, and which for its development postulates not centuries but unknown millenniums.

It is impossible at this time to sketch further the interesting movements and works which accompanied the spread of Empire under Lugalzaggisi, *circa* 4000 B. C., or that of Sargon I. of Agade, 3800 B. C., when the capital was transferred to Agade. One other

point of interest I may, however, touch upon before closing. What have these early inscriptions to say in answer to the question relating to the original inhabitants of the land? Were they a Semitic or a non-Semitic people?

Soon after the decipherment of the cuneiform records it was discovered that certain texts were written in a language which differed apparently *in toto* from the Semitic idiom and vocabulary. Texts were discovered in which this non-Semitic language was accompanied by a Semitic version of the same, sometimes given in parallel columns, and at other times interlined. Moreover, grammatical paradigms were discovered, the purpose of which was to aid in the mastery of the speech, and dictionaries were written to explain it. This language was at first, owing to its agglutinative, as distinct from the inflectional character of the Semitic languages, referred to the Turanian stock. Scholars who have held this view, however, have not agreed as to what branch of speech it shows most affinity. About a quarter of a century ago a rival theory was propounded by Halevy of Paris to the effect that this Akkadian, as it was then called, was simply an ideographic system of writing Assyrian invented by the Assyrians themselves. Halevy disbelieved in the non-Semitic origin even before he began the study of Assyrian.

In 1874 Halevy addressed himself to the subject, attempting to answer the questions: (1) Granting the existence of the Akkadian, does it belong to the Turanian stock? (2) Can the existence of a Turanian people upon Babylonian soil be admitted? (3) Do the Akkadian texts contain a language different from the Assyrian or simply an ideographic system which with the writing was invented by Assyrians? These three questions which the author presented, after the manner of the inverted pyramid, were all answered in the negative. The question has never since been wholly at rest, and though Halevy has returned again and again to the subject, bringing to it great erudition, but lacking at times critical acumen, he has failed to bring conviction to the minds of his colleagues, except in the case of a few isolated instances among the younger Assyriologists. Several others, nevertheless, who have not devoted

special attention to the subject have been brought to a state of indecision.

The subject is touched upon of late by Hilprecht in his Old Babylonian inscriptions. This author assigns on palæographical evidence Lugalzaggisi to the date of 4000 B. C. out of regard for the view of those who do not accept Nabunâ'id's view as correct. [What this has to do with palæographical evidence one fails to see. Palæographical evidence, if it is evidence at all, is not affected by a regard for other people's doubt.] His own opinion is that he "cannot have lived later than 4500 B. C." Radau assigns him to 4000 B. C. Hilprecht holds that while this king's inscription is written in Sumerian, he was "surely a Semite" who wrote in Sumerian. His reasons are that he uses some phrases that look suspicious in an ancient Sumerian inscription, for example, "from the rising of the sun to the going down of the sun." In "Sumerian" *utu ud-du-ta utu shu-ku*, literally, "sun going-forth from sun setting-to." It is doubtful to my mind whether this can be set down as a Semitism. Further, he uses the ideogram *da-ur*, which is generally regarded as derived from the Semitic dārū = eternal. Moreover, the name of Lugalzaggisi may be translated into a Semitic phrase meaning "the king is filled with unchangeable power." Hilprecht gives the order, king-full-power-unchangeable, which is not the order of the elements in Lugalzaggisi. More correctly, and more in accordance with the order of proper names, it might be read king-power-unchangeable-full. But this proves nothing any more than the translation of Jacob Letztergroschen into James Lastfarthing would prove the German name to be English.

Following this method, however, Radau proceeds to show that in the earlier inscriptions there are a number of Semitisms, words which suggest Semitic equivalents found in Assyrian and other Semitic languages. He quotes seventeen in all, the most important of which, as he says, is found in an inscription which is "undoubtedly much older than Sargon I." (3800). But Hilprecht, in speaking of the age of this same inscription which he published, says, it is "not later than 2400 B. C." In addition to these "Semitisms" Radau shows that the proper names of these inscriptions

may also be translated into Semitic phrases. The conclusion reached by Radau is that the facts he has presented "suffice to show that almost *all* the kings of whom we have any notice may be, and probably are, Semitic kings. He refuses, however, to admit that there is no Sumerian language. The difficulty of regarding the one form (the Semitic) as a phonetic system and the other (the Sumerian) as an ideographic system of writing the same Semitic speech he holds is this: "If the people at so remote a time as 4200 B. C. could use and write and understand two such widely different modes of writing; and if Chammurabi (*circa* 2288 B. C.) could write his inscription in two columns, the 'ideographic' and 'phonetic' column, how extremely educated and highly civilised must people have been at this distant epoch! This presupposes a civilisation and learning so high and developed as to be without precedent in the history of mankind."

"But further," he writes, "if the Semites at so early a time as 4500 B. C. had possession of Babylonia, and had adopted the old language of the country, which language they interspersed with their own idiom, they must have been for a long time resident in the land. This would bring the immigration of the Semites back to 5000 B. C., and earlier, when the Sumerian power began to decay. We must therefore push back the height of Sumerian influence to a yet more remote period. Hence . . . civilisation and history must go back to at least 6000 B. C."

In this last conclusion respecting the age the present writer agrees. There are other lines of evidence converging in the same direction; for example, the distance at the present time of the site of ancient Eridu, once a seaport town, from the sea. It is now nearly one hundred and thirty miles from the coast line, and at the rate at which the land is added at the head of the Persian Gulf, by the alluvial deposit, the foundation of Eridu must have taken place about 8000 years ago.

Whether Dr. Radau has strengthened the Sumerian position or weakened it by his discussion is scarcely a question. If these so-called Semitisms are really Semitisms, and the test applied of translating names and phrases into Semitic be valid, I fear th

process might be extended almost indefinitely. But the method, I am convinced, is wrong, whatever be the final judgment of scholars as to the origin of this ill-regulated "Sumerian" speech. Dr. Radau's book shows, however, upon every page the mark of the scholar. Assyrian scholars will feel especially indebted to him for the texts and translations of the tablets from the Hoffmann collection, which form the last part of the book.

JAMES A. CRAIG.

UNIVERSITY OF MICHIGAN.

THE FAIRY-TALE ELEMENT IN THE BIBLE.

[CONCLUDED.]

THE LEGEND OF THE DELUGE.

WE now know enough about the sources of the story of the Deluge to form a definite opinion of the legendary character of the Biblical account and the nature of its tradition; it may serve us therefore as an example of those older Old Testament stories which were received from Babylonian sources. A recapitulation of the present state of text-exegesis will be instructive, and will enable us to form a judgment of the methods and modes of the Hebrew redactorship of ancient pagan myths.

Fragments in cuneiform characters of three different texts of the story of the flood have been discovered in Mesopotamia; and a fourth report is preserved by the Greek author Berosus. One of the cuneiform texts which has the advantage of being almost complete, was found by Prof. George Smith, in 1872, in the library of Asurbanipal. It forms an episode of the Babylonian national epic of Gilgamesh, the king of Erech. The hero suffering from a disease visits his ancestor Pār-napistim,[1] who is famous for his wisdom on which account he is called Atra-hasis,[2] that is "the very wise" Berosus calls him Xisuthros which would be in its original form Hasis-Atra.[3] The old man has a very youthful appearance

---

[1] Also transcribed "Tsit-napishtim." [2] Also transcribed "Atra-Khāsis."

[3] Par-napistim means "the Saved One," or "sprig of life"; Hasis-Atra is derived from *hasīsu*, to think, to comprehend, and *ataru*, excellent. It means he who excels in wisdom. Cf. Jensen, *Kosmol. der Babyl.*, p. 385 f., and Delitzsch, *Ass. Wörterb.*, pp. 249 and 285.

and being interrogated as to the reason, Pār-napistim tells the story of the flood. He relates that once the gods had decided to destroy the city of Surippak by a flood, but Ea the god of wisdom was anxious to preserve him the narrator, Pār-napistim. The god did not dare to betray the secrets of the council of the gods, and yet wanted to give his protégé a warning of the impending danger. The lord of wisdom found wise counsel. He appeared to Pār-napistim in the night in a dream, while he was sleeping in a reed hut, and addressing the reed hut, said:

"Reed hut, Reed hut Wall, Wall,
Reed hut, listen, Wall, perceive,[1]
O man from Surripak, Son of Ubaratutu,
Pull down your house, Build a ship,
Forsake your property, Consider your life,
Leave behind all possessions, Save your life."

The god gives directions concerning the details of the structure, and requests Pār-napistim to bring into its hold all kinds of seeds of living beings. "The very wise one," understands these suggestions of his god well, and acts accordingly. To obviate the suspicion of his fellow-citizens, he is advised to say that he would go down to the ocean to live with Ea, his master, because the god Bel was hostile to the god of the earth, and he would induce Bel to shower rich blessings upon the people. It took Pār-napistim seven days to build the ark, which measured one hundred and twenty cubits in height and one hundred and twenty in breadth, containing six stories, each with nine cross partitions. It was covered with tar inside and out. When it was finished, Pārnapistim carried all his belongings into the hold,—silver and gold and all kinds of seeds of living beings, his family, his servants, animals of the field, and also artificers of every description.

Berosus mentions also scriptures which contained reports about "the beginning, the middle, and the end of all things," saying that Xisuthros was requested to bury them for the sake of preserving them—a notice which is interesting because we frequently read allu-

[1] Jeremias translates *Gefilde* for "reed hut," and *Umhegung* for "wall." Zimmern translates "wind."

sions in Babylonian literature to the effect that science dates back to the time before the deluge.

When the moment for the deluge arrived, Pār-napistim himself entered, saying:

"This day's break[1] Was I afraid of.
To see the daylight[1] I shuddered;
I entered the ship, I locked its door;
To the governor of the ship, To Puzur-Bel, to the sailor,
I confided the ark, Together with all its contents.
As soon as the first Glow of dawn appeared,
Rose from the horizon A black cloud.
Rammân[2] was thundering In the midst of it.
Nebo and Marduk Were marching in front. — —
Ninib came forth, Causing the storm to burst.
The Anunnaki[3] Lifted up the torches,
By their sheen They illuminated the land.
Hadad's dust-whirl Rose to the sky,
And the light of day Was changed into night. — —"

Then the waters rose. They rose as in battle storm upon the people.

"Not one saw His neighbor any longer.
No longer were recognised The people from heaven above,
The gods became afraid Of the deluge,
They fled and rose up To Anu's heaven."

The terrors of the scene were too much even for the gods. They cowered down like dogs. Istar, though she had herself consented to it, murmured at the perdition of mankind. And even the Anunnaki joined her in her lamentation. The storm continued for six days and nights; then it ceased.

"I looked down upon the sea, and made my voice resound,
But all the people had returned to earth again.—
I opened the window, the light fell upon my cheek,

[1] L. W. King translates "storm" for "day" and "daylight."

[2] Rammân is the storm-god, Nebo or Nabu (the son of Marduk, the king of the gods) is the protector of the priests, the promotor of the sciences and the mediator between the gods and men, the deity of revelation.

[3] The Annunaki are the seven evil spirits of the Nether World.

I bowed down, I sat weeping,
Over my cheek were flowing my tears,
I looked down upon the world all was ocean!"

At last, the land began to reappear, and the vessel rested on Mount Nisir, or as Berossus has it, the Kordyaic Mountains.

"When the seventh day came,
I put out a dove and let her go.
The dove flew hither and thither;
But there was no resting-place, and she came back.
Then I put out a swallow and let her go;
The swallow flew hither and thither,
But there was no resting-place, and she came back.
Then I put out a raven and let her go,
The raven flew, saw the waters decrease,
She approached, cawing and croaking, but returned no more."

Berosus follows another, perhaps an older, version of the legend. He also tells of the birds sent out by Xisuthros, but introduces the incident that the second time they returned with traces of clay on their feet.

Then Pār-napistim allowed his folks to leave the ark, and offered a sacrifice of strong frankincense to allure the gods.

"The gods smelled the savour,
The gods smelled the sweet savour,
The gods crowded like flies round the sacrifice."

Istar appeared and swore that Bel, the originator of the Deluge, should not partake of the sacrifice. At last Bel himself came and vented his anger, saying:

"Who is there that has escaped with his life?
Not should have been saved a single man from perdition!"

The god Ninib suspected Ea and accused him of having effected the salvation of Pār-napistim.

"Then opened Ea his mouth and spake,
He said in answer to the hero Bel:
'Ho! Thou wisest of the gods, thou hero!
How foolish wast thou to produce a deluge!
Upon the sinner visit his sin,

Upon the vicious visit his vice,
But show long-suffering and do not exterminate,
Have patience and do not destroy all!"

Ea suggested that he might punish sinners by sending li and leopards, and by hunger and pestilence. But in a deluge must perish. At last Ea confessed that he was the indirect cause the man's salvation. But, says he:

Not have I revealed the council of the great gods!
To the very wise one I sent dreams, thus he heard of the council of the gods.

Bel is appeased, and is willing to do something for the saved man. Changing both to gods, he gives them a habitation at the mouth of the rivers.[1]

Of the two other versions of the Babylonian Deluge-legend one agrees pretty closely, so far as the fragments allow us to form an opinion, with the one discovered in the library of Asurbanipal; while the third one, which purports to be written in the days of Ammizaguga, about 2200 B. C., differs considerably in details.[2]

The conclusion of the Babylonian Deluge-story is evidence that the hero was worshipped as a god, which indicates that the legend must originally have been a myth. In the mouth of later narrators the chief actor is represented as a struggling and suffering man who succeeds only by great circumspection and after much trouble. The fact that he was worshipped as a god was then explained to be the reward for his virtues.

The similarity between the Babylonian and the Hebrew account of the Flood is too great to be purely accidental, and there is to-day no theologian of scientific standing who would deny that the Hebrew version is not in some way derived from an ancient

[1] The text of these tablets has been translated by Schrader (in *K. A. T.*, page 55 et seq.), Jensen (in *Cosmologie der Babylonier*, p. 367 et seq.), Jeremias (in Izdubar-Nimrod, *Eine Alt-Babylonische Heldensage*, p. 32 et seq.), Zimmern (in Gunkel's *Schöpfung und Chaos*, p. 423 et seq.), Jensen (*Keilinschr. Bibliothek*, Vol. VI.). L. W. King, *Babylonian Religion and Mythology*, pp. 128–138.

[2] The text of this third Babylonian account of the Deluge is published by Scheil in *Recueil de travaux rel. à la phil. égypt. et assyr.* Vol. XX., page 55 et seq.

Babylonian myth, versions of which are preserved in the cuneiform tablets.[1]

In both the Hebrew and the Babylonian accounts, the cause of the Flood is divine wrath, and the salvation of one family is secured by a special revelation. The building of the ark is ordered, though the coming of the Flood is not foretold. The ship is built in stories and caulked with asphalt; it has a door and windows. Not only the family of the one man saved is received in it, but also cattle and animals of the field. At last, the hero of the story himself enters; the door is closed. Then the Deluge comes and the ark floats. All men die. The ship is stranded on a mountain. The condition of the earth is learned by sending out birds. The hero takes off the roof—a fact mentioned by Berosus—and leaves the ark. Then a sacrifice is made, and the gods smell the sweet odor, —a literal agreement between the Hebrew and the Babylonian traditions. Finally, a promise is made to send no other flood.

It is also noteworthy that, according to Berosus, Xisuthros, like Noah, is expressly stated to be of the tenth generation, and that the place where the ark rests is Armenia, or, as the Bible has it, Mt. Ararat. With all these similarities, there is an enormous difference between the two forms of the legend. The Babylonian version is polytheistic and pagan, while the Hebrew account is monotheistic, changing all those features which are not reconcilable with a rigid monotheism.

Gunkel (Genesis, p. 66) says:

"How infinitely higher ranges the Hebrew legend than the Babylonian! Should we not take delight in having discovered a measure in this parallelism by which the peculiar loftiness of the idea of God in Israel can be gauged,—an idea which possesses sufficient power to purify and change that which is offensive and strange? The Babylonian legend is in a high degree barbarian, while the Hebrew is far more human. Certainly, we must consider in our judgment of the Hebrew legend that we have been acquainted with it from childhood; but this very fact drives home to us the truth that we owe far more to the Hebrews than to the Babylonians.

"On the other hand, what the Hebrew legend has gained in religious spirit, it

[1] For details on the Deluge-legends see Usener, *Sintflutsagen und andere Flutsagen*.

has lost in its poetical form. The Babylonian legend breathes a wild, grotesque, but nevertheless a fascinating poetry. The Hebrew version has surrendered the fiery mythological coloring, and has become simpler, poorer, and more prosaic."

The Old Testament contains, as was pointed out for the first time by Dr. Astruc, a French physician, two reports of the Deluge: One is the account of the Yahvist and the other of the Elohist, the latter belonging to the school of the Priestly Code, the two versions being throughout intermingled. We are told twice that God saw the wickedness of man (Genesis vi. 5, 6; and vi. 11, 12); that God foretells to Noah the destruction of man through a deluge (vi. 17 and vii. 4); that God orders him to enter the ark, and he enters it with his whole household (vi. 18; and vii. 1). He leads into the ark a number of animals, pure and impure (vi. 19, 20; and vii. 2, 3), in order to preserve their lives. Again, we are told twice that Noah actually enters the ark (vii. 7, 13); that the Flood comes (vii. 10 and vii. 11); that the waters increase, and the ark swims on the waters (vii. 17 and vii. 18); that all living souls die (vii. 21 and vii. 22). Twice the cessation of the Flood is stated (in viii. 2, in the beginning and the end of the verse). Twice Noah discovers that he can leave the ark (viii. 6–13; and viii. 15–16). And twice God promises no more to send a deluge (viii. 20–22; and ix. 8–17). In addition to the double record of the same events which is preserved in Genesis, the one with the name Yahveh and the other with the name Elohim, we observe some contradictions and discrepancies. Noah admits into the ark, according to Genesis vii. 19, 20, and vii. 15, 16, a pair of each animal species; but, according to vii. 2, seven pairs of the clean and two pairs of the unclean animals.

In chapter vii. 11, we have a mythological recollection of the Babylonian flood (the Tehom = Tiamat). We read that the fountains of the great deep were broken up and the windows of heaven were opened. The narrators here refer to the waters above and below the firmament as flowing together again. How much simple

[1] The word Tehom תְּהוֹם in Hebrew never means ocean or lake; it is only used for the mythological flood which is divided into the waters above the firmament and underneath the earth.

is the report in vii. 12, where we read of a great rain lasting forty days. The same discrepancy is found in the manner in which the Flood ceases. Chapter viii. 2, first sentence, belongs to vii. 11; while the rest of the same verse, chapter vii., 2, belongs to chapter vii. 12. According to the former the waters above and below the firmament are stopped, according to the latter, the rain ceases. According to chapter viii. 6 to 12, Noah must use his own judgment in deciding whether he can leave the ark; while according to chapter viii. 16 he leaves the ark at God's command. There is one additional difference, namely, as to the way in which the time is determined. One source has an exact chronology, stating the year, month, and day (chapter vii. 5, 11, 13, 24; chapter viii. 3*b*, 4, 5, 13*a*, 14). The same exactness is shown in the calculation of the dimensions of the ark (vi. 15) and the height of the waters (vii. 20). The other report gives only approximate figures (chapter vii. 4, 10, 12; viii. 6, 10, 12). The numbers of the former report are by far higher than those of the latter.

Our freethinkers ridicule such things as the size of the ark and the lack of accommodation for the animals inside; but the Biblical account taxes the reader's patience very little in comparison with the original Chaldæan account. The story of Noah is nearer to probable truth than the tale of Pār-napistim. The latter was changed into the former because it had become incredible to the generation of the Hebrew redactor, and in retelling the story he rationalised it and produced a version of it that agreed with his standard of truth.

DELUGE-LEGENDS OF CLASSICAL ANTIQUITY.

There is no need of entering here more deeply into the kindred legends of other nations.[1] Suffice it to say that there are stories of deluges among almost all the civilised and uncivilised peoples of the earth; but their connexion with the Semitic legends is either doubtful or positively impossible. The Indian story, as related in the *Çatapatha Brahmana* I 8, 1–10, and in the *Matsyopakhyāna* (*Ma-*

[1] Cf. Richard Andree, *Die Flutsagen*, 1891.

habharata III, 187 2ff.), is different in its tendency; nor can the myth of Deucalion and of other Greek survivors of floods be regarded as having been derived from the Semitic story of the deluge. It may be conceded however that local legends of Asia Minor were in their later formations modified by the Jews of the Diaspora. At any rate, this must have been the case in Kelainai, a city of Phrygia, which was called kibotos or the ark, in the days of Augustus, and coins were struck by the city under the government of the emperors Septimus Severus, Macrinus, and Philippus, exhibiting on the reverse a memorial of the Deluge. The ark bears the inscription Νωε. There are two scenes represented: on the right side the ark floats on the waters and on the left the surviving couple steps on land with the gesture of adoration. One bird perches on the ark, while another carries a branch.

REVERSE OF BRONZE COIN OF APAMEIA-KIBOTOS, PHRYGIA.[1] With relief pictures commemorating the Deluge. (Royal Numismatic Collection, Berlin.)

EROS ON THE DOLPHIN. Relief of a Tarentine coin, Art Museum of Bonn.

The Greek Deluge-stories differ considerably from the Semitic account. Hermann Usener explains the name Deucalion as the little Δεὺς or Ζεύς, i. e., the Zeus-child, and the variants of the legend, the story of Danaë with her baby Perseus and of Auge with

[1] Friedländer und Sallet, *Das königl. Münzkabinet*, IX., No. 885. The obverse shows the bust of the elder Philip with the inscription ΑΥΤ(οκρατως) Κ(αισας) ΙΟΥΛ(ιος) ΦΙΛΙΠΠΟΣ ΑΥΓ(ουστος). The coin dates from the beginning of the third century of the Christian era. The inscription ΝΩΕ indicates Jewish influence; but the cognomen of the town "Kibotos=ark" which is established as having been in vogue at the time of Augustus by Strabo, Pliny, and Ptolemy, proves that the story of the Deluge was localised in pre-Christian times in that Phrygian city.

her baby Telephos, symbolise transmigrations of children of the sun, thrown in a box upon the water. The account of the Ogygian flood, localised in Attica and Bœotia, is so faded as to allow no definite conclusion. But the same idea reappears in the legend of Dionysos crossing the sea on a ship, of Apollo on his tripod flying over the ocean, and of Orpheus or Eros on the back of a fish, usually a dolphin. The significance being the passage of the soul over the waters of the deep to the Isles of the Blessed, or a reappear-

DIONYSOS SCUDDING OVER THE SEA.[1]
(Gerhard, *Auserl. Vasenb.*, I., 49.)

ance to life from the realm of death. The ship, or ark, and in other versions, the fish, represents the same idea as the boat of Charon, and this is the reason why the early Christians cherished the ship and the fish so highly as sacred symbols. Christ is represented as a fish, and Christians are called the fishlets. The rise of the sun from the horizon of the sea offered itself as an appropriate

[1] The picture was broken in the middle, the rent crossing the sail and the face of Dionysos.

allegory of rebirth, or reappearance to life, and so the ship carrying life over the waters of death became the emblem of the Beyond or of immortality, and constituted a welcome ornament for graves and sarcophagi.

A most remarkable instance of a bronze ship carrying a number of animals was discovered by J. Falchi in 1886, in an ancient circular stone tomb in Vetulonia, Etruria, while a similar relic of

APOLLO ON THE TRIPOD, FLYING OVER THE OCEAN.
(Picture on a water-vessel in the Gregorian Museum of the Vatican. *Élite céramogr.*, II., pl. 6.)

cruder and less elaborate workmanship was exhumed in Sardinia. We reproduce here the bronze ship of the tomb of Vetulonia, the original of which is 0.22 metres long. The prow is the head of a stag, which is represented as being tied to the ship by a rope. Two small rodents, perhaps rats, are gnawing the rope, one from

above, the other from below. They may correspond to the black and white mice in the Indian parable of the man hanging on a branch in the well. Further we see a dog barking at a porcupine, quadrupeds of different description, perhaps a donkey or a calf eating hay, then a fowl, and in the centre a bull and a cow under a yoke. On the other side of the yoke we find a boar, a sow with little pigs, a ram, and a sheep, besides a few other unrecognisable creatures.

According to the opinions of Löschcke and Karos, two archæologists of authority, the tomb of Vetulonia belongs to the seventh century B. C. and bears the traces of Phœnician workmanship. This, however, does not necessarily imply that the relic must have

BRONZE SHIP FROM A GRAVE OF VETULONIA, ETRURIA, CARRYING ANIMALS AS IN A "NOAH'S ARK."[1]

Probably of the seventh century B. C. (Museum of Florence.)

been imported from Phœnicia; it may have been manufactured in Etruria after a Phœnician pattern (*ib.*, p. 253). The find is rare but the fact that two objects of the same kind have been discovered, one in Sardinia and another in Italy, indicates that we are confronted with an ancient usage which was abandoned in the progress of time.[2]

---

[1] *Notice degli Scavi*, 1887, tav. XVII., 1, and *Milani Museo topographico dell' Etruria*, 1898, p. 30 ff. The animals are placed near the edge of the vessel and it is remarkable that this same arrangement is preserved in a Christian representation of Noah's ark on the sarcophagus of Treves. We have here an interesting instance of a Christian symbol which in the details of execution closely follows pagan models.

[2] For further details see Hermann Usener, *Die Sintfluthsagen*. Bonn, 1899.

The animals are placed upon the margin of the vessel's board and it is remarkable that this same arrangement is preserved in a Christian representation of Noah's ark on the sarcophagus of Treves. We have here an interesting instance of a Christian symbol which in the details of its execution closely follows pagan models.

FURTHER LEGENDS AND FAIRY-TALES.

In addition to the mythical notions of Leviathan and Behemoth, the ideas of the tree of life and of the tree of knowledge, and the creation of the world from chaos in seven days, there are other stories, showing the same tendency of rationalising redactorship,

THE TREVES SARCOPHAGUS REPRESENTING NOAH IN THE ARK.
(After F. X. Kraus.)

viz., the legends of the destruction of impious cities by fire, the tower of Babel, the unfaithfulness of Potiphar's wife, etc. Everywhere the canonical authors exhibit a Puritanic hostility toward mythical features, which have been removed with ruthless rigor, generally with a total lack of sense for poetry and sometimes with a misunderstanding even of the original meaning of the various traditions.

The destruction of the impious cities has been localised in the region of the Dead Sea. A rock formation resembling the statue of a woman has given rise to the legend that it is the petrified wife of the survivor Lot, while the name of So'ar (צֹעַר which means littleness), on the southern shore of the Dead Sea gave rise to the

idea that Lot had pleaded for it as being merely a So'ar, a little thing.

The Yahvist account is older and more unsophisticated; the Elohist version exhibits traces of computation and reflexion. The latter knows the Mosaic law (or rather Deuteronomy) and changes the primitive legend into an episode of the history of Israel by interpreting the divine promise not to send another deluge as a covenant, preliminary to God's more definite revelation to Abraham, which is destined to find its fulfilment in the Mosaic law.

THE PILLAR ON THE DEAD SEA CALLED LOT'S WIFE.

Of Sargon I., king of Agade, who, according to a tablet of King Nabonidus, lived 3754 B. C. and built a temple to Samas, Mr. E. A. Wallis Budge says in his *Babylonian Life and History*, p. 40:

"A curious legend is extant respecting this king, to the effect that he was born in a city on the banks of the Euphrates, that his mother conceived him in secret and brought him forth in a humble place; that she placed him in an ark of rushes and closed it with pitch; that she cast him upon the river in the water-tight ark; that the river carried him along; that he was rescued by a man called Akki, who brought him up to his own trade; and that from this position the goddess Istar made him king."

This story of Sargon is the prototype of the legend of Moses; but the latter account is rationalised and rendered probable; it is credible even to people to-day who believe that the world is governed by one God alone, and that all things are directed by his special providence.

As to the Assyrio-Babylonian origin of these legends there can be no doubt. The best authorities agree "that Chaldæa was the original home of these stories and that the Jews received them originally from the Babylonians." (Smith-Sayce, *The Chaldean Account of Genesis*, p. 312.)

The numerous illustrations that have been found on early Assyrian and Babylonian seals prove "that the legends were well known and formed part of the literature of the country before the second millennium B. C." (*Ib.*, p. 331.)

The story of David's dowry for King Saul's daughter Michal, as narrated in 1 Samuel xviii. 25–27, is apparently told of other heroes among those nations which practised circumcission. On Mr. Mourant Brock's authority, the same story was current in Egypt. He says:[1]

"At Thebes, in the palace of Ramses, Medineet Haboo, built a century or so before David's time, you have a similar transaction painted on the wall, a vast picture, where is the scribe (notary) the 'full tale,' register, and all complete."

Of special interest is the legend of Solomon's judgment. The wise king adjusts the dispute of the two women who claim to be the mother of the same infant, by ordering the babe to be cut to pieces; but the passage in which the story is told is commonly attributed by critics to a later age, and in the form in which it stands in the Old Testament can scarcely be older than the third century before Christ. We know of a similar story in India, which appears to be an older version of the same tale. It is preserved in the Buddhist Jataka tales, where we are told that two women claiming to be the mother of the same child appeared in court, and Vishâkâ

[1] Mourant Brock, *The Cross: Heathen and Christian*. London: Seeley, Jackson & Halliday. 1880.

advised the minister of state, who acts as judge, to decide as follows:[1]

"Speak to the two women thus: 'As we do not know to which of you two the boy belongs, let her who is the strongest take the boy.' When each of them has taken hold of one of the boy's hands, and he begins to cry out on account of the pain, the real mother will let go, being full of compassion for him, and knowing that if her child remains alive she will be able to see it again; but the other, who has no compassion for him, will not let go. Then beat her with a switch, and she will thereupon confess the truth of the whole matter."

So the minister ordered the two women to take hold of the child, each of one limb, and to pull with all their might, so as to divide it fairly between them. When one of the two claimants gave up her claim, for fear the child might be hurt, he interfered and

THE JUDGMENT OF BEKKHORIS, THE SOLOMON OF THE NILE.
(Fresco of Pompeii.)

decided the case in her favor. He argued that, having shown more consideration for the infant's welfare, she must be the true mother.

The interest of the story is still more increased by having been told of Bokkhoris, an Egyptian king of the eighth century B. C., and the event has been commemorated in a fresco on the walls of the city of Pompeii, where it was buried by the eruption of Mt. Vesuvius in the beginning of the Christian era, to be recovered only in the latter half of the eighteenth century. The picture is not very artistic; the heads and arms of the persons represented are quite out of proportion. The scene is not Egyptian but typi-

[1] *Kah Gyur*, translated by Schiefner and Ralston. Trübner's Oriental Series.

cally Roman, but its meaning cannot be misunderstood. It is one of the most interesting relics that have been brought to light from the ruins of buried cities.

The Egyptian name of the Solomon of the Nile is Bek-en-ranf, which form has been Hellenised into Bokkhoris. He is mentioned by Diodorus Siculus and Manetho,[1] and is one of the most popular kings in Egyptian folklore and fiction, having represented the Egyptian nation and led a successful rebellion against the Ethiopian invaders, throwing off the yoke of the great conqueror Piankhi, and maintaining himself, probably for six years, until Sabaco, King of Ethiopia, restored the supremacy of the Ethiopians, who at that time were much stronger than the Egyptians, and had the unfortunate rebel king burned alive. This tragic fate served only to endear him the more to the Egyptians, who describe him as "a remarkable personage, feeble in body and avaricious, but with a certain renown for wisdom and the author of laws which had the approval of his countrymen."[2]

JOSEPH, BATA, AND ATYS.

The story of Joseph and Potiphar is also a rationalised fairy-tale which was told on the Nile in another but similar version and is still preserved in a papyrus that dates back to the nineteenth dynasty. It is the tale of Anpu and Bata. That part of the story which is of special interest to Bible scholars reads in Prof. W. M. Flinders Petrie's translation as follows:

"Once there were two brethren, of one mother and one father; Anpu was the name of the elder, and Bata was the name of the younger. Now, as for Anpu he had a house, and he had a wife. But his little brother was to him as it were a son he it was who made for him his clothes; he it was who followed behind his oxen to the fields; he it was who did the ploughing; he it was who harvested the corn he it was who did for him all the matters that were in the field. Behold, his younger brother grew to be an excellent worker, there was not his equal in the whole land; behold, the spirit of a god was in him.

---

[1] Diod. Sic., I., 79–94, and Manetho apud Syncell. Chronograph, p. 74 B.

[2] See Rawlinson, *History of Egypt*, II., p. 458.

"Now after this the younger brother followed his oxen in his daily manner; and every evening he turned again to the house, laden with all the herbs of the field, with milk and with wood, and with all things of the field. And he put them down before his elder brother, who was sitting with his wife; and he drank and ate, and he lay down in his stable with the cattle. And at the dawn of day he took bread which he had baked, and laid it before his elder brother; and he took with him his bread to the field, and he drave his cattle to pasture in the fields. And as he walked behind his cattle, they said to him, 'Good is the herbage which is in that place;" and he listened to all that they said, and he took them to the good place which they desired. And the cattle which were before him became exceeding excellent, and they multiplied greatly.

"Now at the time of ploughing his elder brother said unto him, 'Let us make ready for ourselves a goodly yoke of oxen for ploughing, for the land has come out from the water, it is fit for ploughing. Moreover, do thou come to the field with corn, for we will begin the ploughing in the morrow morning.' Thus said he to him; and his younger brother did all things as his elder brother had spoken unto him to do them.

"And when the morn was come, they went to the fields with their things; and their hearts were pleased exceedingly with their task in the beginning of their work. And it came to pass after this that as they were in the field they stopped for corn and he sent his younger brother, saying, 'Haste thou, bring to us corn from the farm.' And the younger brother found the wife of his elder brother, as she was sitting tiring her hair. He said to her, 'Get up, and give to me corn, that I may run to the field, for my elder brother hastened me; do not delay.' She said to him, 'Go, open the bin, and thou shalt take to thyself according to thy will, that I may not drop my locks of hair while I dress them.'

"The youth went into the stable; he took a large measure, for he desired to take much corn; he loaded it with wheat and barley; and he went out carrying it. She said to him, 'How much of the corn that is wanted, is that which is on thy shoulder?' He said to her, 'Three bushels of barley, and two of wheat, in all five; these are what are upon my shoulder;' thus said he to her. And she conversed with him, saying, 'There is great strength in thee, for I see thy might every day.' And her heart knew him with the knowledge of youth. And she arose and came to him, and conversed with him, saying, 'Come to me, and it shall be well for thee, and I will make for thee beautiful garments.' Then the youth became like a panther of the south with fury at the evil speech which she had made to him; and she feared greatly. And he spake unto her, saying, 'Behold thou art to me as a mother, thy husband is to me as a father, for he who is elder than I has brought me up. What is this wickedness that thou hast said to me? Say it not to me again. For I will not tell it to any man, for I will not let it be uttered by the mouth of any man.' He lifted up his burden, and he went to the field and came to his elder brother; and they took up their work, to labor at their task.

"Now afterward, at eventime, his elder brother was returning to his house; and the younger brother was following after his oxen, and he loaded himself with all the things of the field; and he brought his oxen before him, to make them lie down in their stable which was in the farm. And behold the wife of the elder brother was afraid for the words which she had said. She took a parcel of fat, she became like one who is evilly beaten, desiring to say to her husband, 'It is thy younger brother who has done this wrong.' Her husband returned in the even, as was his wont of every day; he came unto his house; he found his wife ill of violence; she did not give him water upon his hands as he used to have, she did not make a light before him, his house was in darkness, and she was lying very sick. Her husband said to her, 'Who has spoken with thee?' Behold she said, 'No one has spoken with me except thy younger brother. When he came to take for thee corn he found me sitting alone; he said to me, "Come to me, tie up thy hair:" thus spoke he to me. I did not listen to him, but thus spake I to him: "Behold, am I not thy mother, is not thy elder brother to thee as a father?" And he feared, and he beat me to stop me from making report to thee, and if thou lettest him live I shall die. Now behold he is coming in the evening; and I complain of these wicked words, for he would have done this even in daylight.'

"And the elder brother became as a panther of the south; he sharpened his knife: he took it in his hand; he stood behind the door of his stable to slay his younger brother as he came in the evening to bring his cattle into the stable.

"Now the sun went down, and he loaded himself with herbs in his daily manner. He came, and his foremost cow entered the stable, and she said to her keeper, 'Behold thou thy elder brother standing before thee with his knife to slay thee; flee from before him.' He heard what his first cow had said; and the next entering, she also said likewise. He looked beneath the door of the stable; he saw the feet of his elder brother; he was standing behind the door, and his knife was in his hand. He cast down his load to the ground, and betook himself to flee swiftly; and his elder brother pursued after him with his knife. Then the younger brother cried out unto Ra Harakhti, saying, 'My good Lord! Thou art he who divides the evil from the good.' And Ra stood and heard all his cry; and Ra made a wide water between him and his elder brother, and it was full of crocodiles; and the one brother was on one bank, and the other on the other bank; and the elder brother smote twice on his hands at not slaying him. Thus did he. And the younger brother called to the elder on the bank, saying, 'Stand still until the dawn of day; and when Ra ariseth, I shall judge with thee before him, and He discerneth between the good and the evil. For I shall not be with thee any more forever; I shall not be in the place in which thou art; I shall go to the valley of the acacia.'"

The story continues in fairy-tale fashion, reminding one of the German *Märchen* of the *Machandelbom* and other Grimm tales.

Bata is slain, but he revives successively in various forms. When one is destroyed, he reappears in another, as an accacia, a bull, and two persea trees. If the Hebrew versions of the story which were utilised by the Old Testament redactors contained any of incidents, we need not wonder that they who were in deadly earnest to obliterate all fairy-tale elements, would naturally omit or change all the rest of the Potiphar story.

Our interest in the ancient Egyptian fairy-tale of Bata will increase still more if it be true, as Prof. W. M. Flinders Petrie suggests, that Bata (or Vatu) is the Greek Atys which at an early period, when the digamma was still audible, was pronounced "Vatys." He says:

"In the myths of Phrygia we meet with Atys or Attis, of whom varying legends are told. Among these we glean that he was a shepherd, beautiful and chaste; that he fled from corruption; that he mutilated himself; lastly he died under a tree and afterwards was revived. All this is a duplicate of the story of Bata. And looking further, we see parallels to the three subsequent transformations. Drops of blood were shed from the Atys-priest; and Bata, in his first transformation as a bull, sprinkles two drops of blood by the doors of the palace. Again, Atys is identified with a tree, which was cut down and taken into a sanctuary; and Bata in his second transformation is a Persea tree which is cut down and used in building. Lastly, the mother of Atys is said to have been a virgin, who bore him from placing in her bosom a ripe almond or pomegranate; and in his third transformation Bata is born from a chip of a tree being swallowed by the princess. These resemblances in nearly all the main points are too close and continuous to be a mere chance, especially as such incidents are not found in any other Egyptian tale, nor in few—if any—other classical myths."

The tale of Bata (and thus also the story of Joseph) is obviously a humanised myth and must have undergone many changes before it was crystallised into that form which it received in the Old Testament.

WOMAN'S RIGHT AND POTIPHAR'S WIFE.

The story of Potiphar's wife reflects upon the position and prerogatives of women in ancient Egypt and indicates as the time of its composition a period in which the male element had at last succeeded in establishing a new code of rights, according to

which women's prehistoric privileges as to a free choice of their consorts was absolutely abolished. It will be instructive to refer, in this connexion, to another story, older than the tale of Anpu's wife, which still shows the more ancient condition of a state of matriarchy in the age of woman's rights which must have been firmly established in the earliest days of the dawn of Egyptian civilisation.

The Westcar papyrus, edited in photographic facsimile and translated into German by Erman, translated into French by Maspero, and into English by Petrie, contains the tale of the wife of Uba-aner, story-teller to the king. Pharaoh with his attendents was visiting Uba-aner, and the mistress of the house fell in love with one of the royal pages. "She sent her servant unto him with a present of a box full of garments." Having met the page, she directed her steward, the superintendent of the slaves, to make ready the lodge in the garden. "And she remained there, and rested, and drank with the page until the sun went down." The story then relates how Uba-aner takes his revenge on the page. Being a magician, he has a crocodile of wax thrown into the lake where the page was wont to bathe; the latter descended into the water, the wax crocodile was changed into a real one and devoured the unsuspecting youth.

Prof. Flinders Petrie adds the following explanation to his translation:[1]

"To read the story aright, we must bear in mind the position of woman in ancient Egypt. If, in later ages, Islam has gone to the extreme of the man determining his own divorce at a word, in early times almost the opposite system prevailed. All property belonged to the woman; all that a man could earn, or inherit, was made over to his wife; and families always reckoned back further on the mother's side than the father's. As the changes in historical times have been in the direction of men's rights, it is very unlikely that this system of female predominance was invented or introduced, but rather that it descends from primitive times.

"In this tale we see, then, at the beginning of our knowledge of the country, the clashing of two different social systems. The reciter is strong for men's rights, he brings destruction on the wife, and never even gives her name, but always

[1] *Egyptian Tales*, I., p. 48–50.

calls her merely "the wife of Uba-aner." But behind all this there is probably the remains of a very different system. The servant employed by the mistress seems to see nothing outrageous in her proceedings; and even the steward, who is on the master's side, waits a day or two before reporting matters. When we remember the supremacy in property and descent which women held in Egypt, and then read this tale, it seems that it belongs to the close of a social system like that of the Nairs, in which the lady makes her selection,—with variations from time to time. The incident of sending a present of clothing is curiously like the tale about a certain English envoy, whose proprieties were sadly ruffled in the Nair country, when a lady sent him a grand shawl with an intimation of her choice. The priestesses of Amen retained to the last this privilege of choice, as being under divine, and not human protection; but it seems to have become unseemly in late times."

Observe that the name of Potiphar's wife is as little mentioned as that of Uba-aner's wife. We read nothing in the Bible as to whether Potiphar's wife was ever punished for her breach of faith. Uba-aner's revenge was not taken openly but in secret, by magic; he does not even upbraid his wife for her conduct, and the narrator delights his hearers by the sly way in which the injured husband rids himself of a rival; while the satisfaction of the audience consisted less in the punishment of the page than in the disappointment of the faithless wife who never knew how she lost her lover.

That the institution of woman's rights was spread over almost all the nations of antiquity is proved by the reminiscences of this condition of things in all documents of ancient literature. In fairy-tales, a prince never inherits the kingdom of his father, but he who marries his daughter becomes the next king (perhaps we ought to say, "The Queen's husband or Prince consort"). Telemachus apparently has no right to the throne of Odysseus, but that suitor would become king whom Penelope received as her husband. She is surrounded by wooers, although she must have been over forty years old. Obviously they did not care for the woman, but for the property and power which she controlled. Odysseus apparently ruled the island solely on the strength of his being Penelope's husband, for we know that he had not inherited the throne from his father, who, according to Homer, was still alive when his famous son returned, and was leading the simple life of a husbandman in the country.

Shakespeare knows nothing of matriarchy, yet following some old tradition he shows that in Denmark the queen might dispose of the king and install some other man by making him her consort. According to modern views, Hamlet, the son of the late king, would be heir to the throne, but in the drama his rights are not even so much as mentioned.

There are Indian tribes in America among whom matriarchy is still to-day the established social law.

* * *

The original prototype of the story of Potiphar's wife, accordingly, must have been a religious myth, a peculiar version of the legend of Adonis. The myth changed into a fairy-tale and became a story told purely for the purpose of entertainment, and in this stage the new ideal of conjugal morality, established through the altered conditions of a period of man's rights and the abolition of woman's prerogative of a free choice, became now the leading motive of the tale, its lesson or moral; and this is the same in the Egyptian tale of Anpu's wicked wife and in the Biblical story of Joseph's chastity.

WORSHIP OF THE QUEEN OF HEAVEN.

Pagan beliefs possessed a greater fascination over the minds of the Hebrew than might appear from the general tenor of Hebrew literature. The redactors of the Bible spurned them and they incorporated into the canon the writings of those authors, psalmists, and prophets only who were possessed of the same rationalistic iconoclasm that was peculiarly their own. The constant relapses of Israel and Judah into idolatry prove, however, how powerful the pagan sentiment remained among the masses of the people in spite of several Jahvistic reforms which were instituted sometimes by deeply religious men, sometimes by unscrupulous fanatics.

We quote here from Jeremiah, chapter 44, passages which form a contemporary evidence of the worship of the Queen of Heaven among the Jews that fled to Egypt after the assassination of Gedaliah, the Babylonian viceroy. These men being conspirators against the foreign yoke must have been ardent patriots, and they

declare in unequivocal language that the Jews in Judæa including kings and princes had worshipped the Queen of Heaven. We read:

"Then all the men which knew that their wives had burned incense unto other gods, and all the women that stood by, a great multitude, even all the people that dwelt in the land of Egypt, in Pathros, answered Jeremiah, saying,

"As for the word that thou hast spoken unto us in the name of Yahveh, we will not hearken unto thee.

"But we will certainly do whatsoever thing goeth forth out of our own mouth, to burn incense unto the queen of heaven, and to pour out drink offerings unto her, as we have done, we, and our fathers, our kings, and our princes, in the cities of Judah, and in the streets of Jerusalem: for then had we plenty of victuals, and were well, and saw no evil.

"But since we left off to burn incense to the queen of heaven, and to pour out drink offerings unto her, we have wanted all things, and have been consumed by the sword and by the famine.

"And when we burned incense to the queen of heaven, and poured out drink offerings unto her, did we make her cakes to worship her, and pour out drink offerings unto her, without our men?

"Then Jeremiah said unto all the people, to the men, and to the women, and to all the people which had given him that answer, saying,

"The incense that ye burned in the cities of Judah, and in the streets of Jerusalem, ye, and your fathers, your kings, and your princes, and the people of the land, did not Yahveh remember them, and came it not into his mind?

"So that Yahveh could no longer bear, because of the evil of your doings, and because of the abominations which ye have committed; therefore is your land a desolation, and an astonishment, and a curse, without an inhabitant, as at this day.

"Because ye have burned incense, and because ye have sinned against Yahveh, and have not obeyed the voice of the Lord, nor walked in his law, nor in his statutes, nor in his testimonies; therefore this evil is happened unto you, as at this day."

We may fairly assume that the Yahvists were not always in the majority; but they were filled with a zeal for monotheism, and represented an exceedingly active element, which was sure to cause trouble whenever there was the least infringement upon their iconoclastic rationalism. They were relentless when in power and willing to die for their convictions when antagonised, and it is this energy to which they owe their success and the survival of their faith.

But while we recognise their courage, we must not be blind to their shortcomings, which are typical of all religious fanatics. There were many among them who did not shrink from treason, like Jehu, nor from shedding innocent blood, like Elihu, who exterminated the Baal priests together with their wives and children.[1]

The practice of weeping for Tammuz is described in the Bible as an un-Jewish custom, which is severely criticised by the prophet Ezekiel; but it is noteworthy to see the persistence with which the Jews clung to these rites in spite of the repeated reforms of zealous kings and the curses pronounced by the prophets of Yahveh.

We here reproduce the famous passage of Ezekiel from Professor Toy's new translation of the *Polychrome Bible:*

"In the sixth year, in the sixth month, on the fifth day of the month, as I was sitting in my house, and the Elders of Judah were sitting with me,[2] the hand of the Lord, JHVH, fell on me there. And I saw, and lo, a form like that of a man,[3] from what seemed his loins downward and upward, like fire, like the gleam of shining metal. And he stretched forth the form of a hand, and took me by a lock of my hair; and the spirit[4] lifted me up between earth and heaven, and brought me, in visions of God, to Jerusalem, to the door of the north gateway of the inner court,[5] where stood the image which provokes the just indignation of JHVH. And

---

[1] The story of Elijah is apparently a test of the genuineness of priesthood according to ancient notions, which is decided by the ability to make the sacrificial fire for the burnt offering without flint and steel, the then modern methods, or other help, but after the mysterious fashion of primitive man, by friction. The account knows nothing of the fire falling from heaven, as the later commentators interpret the passage.

[2] The old civil organization was preserved by the exiles. The Elders often visited the Prophet, whose official position they respected, to ask if he had any word from JHVH. On this occasion he falls into the ecstatic state in their presence.

[3] See i. 26, 27, in accordance with which we may here read, following the Greek Bible, *a man* (Heb. *ish*) instead of *fire* (Heb. *esh*) in the Received Text.

[4] A divine energy took possession of him; this is the Prophet's standing expression for the visional state. The *spirit* is a supernatural being, a member of JHVH's heavenly court, acting as God's agent in affecting men's minds and bodies (1 Kings xxii. 21, 24; 1 Sam. x. 6; 2 Sam. xxiii. 2; Is. lxi. 1, *al.*). Ecstasy was at first the ordinary condition of prophetic utterance (1 Sam. xix. 24; Mic. i. 8); it was gradually dispensed with, as prophecy became reflective and moral, and in Ezekiel it seems to be chiefly literary form.

[5] In the gateways of the inner court the vestibules faced outward and the doors inward; thus the Prophet stood within the inner court, and, looking through

lo, there was the Glory of the God of Israel, like the vision which I saw in the valley.

"And He said to me: Son of man, turn thine eyes northward! I turned mine eyes northward, and beheld, north of the altar-gate, at the entrance, that image which provokes His indignation. He said to me: Son of man, seest thou what they are doing, the great abominations the House of Israel are here practicing, so that I must leave my sanctuary? Thou shalt see yet greater abominations. And He brought me to the door of the court, and I looked, and lo, a hole in the wall. He said to me: Son of man, dig into the wall. I dug into the wall, and beheld a door. And He said to me: Enter, and see the wicked abominations which they are here practicing. I entered and looked, and lo, every form of reptile and beast, all manner of abominations, and all the idols of the House of Israel were portrayed on the wall round about. And seventy men, of the Elders of the House of Israel, one of whom was Jaazaniah ben-Shaphan,[1] were standing before them, every man with a censer in his hand, and the odor of the cloud of incense ascended. He said to me: Seest thou, son of man, what the Elders of the House of Israel are doing in secret, every one in his chamber filled with pictures? They think, JHVH does not see us, JHVH has left the land.[2] And He said to me: Thou shalt see yet greater abominations which they are practicing. And He brought me to the door of the north gateway[3] of the house of JHVH, and behold, there were sitting the women, weeping for Tammuz. And He said to me: Seest thou, son of man? thou shalt see yet greater abominations than these. And He brought me into the inner court of the house of JHVH, and behold, at the very door of the Temple of JHVH, between the porch and the altar, were about twenty-five men, with their backs to the Temple of JHVH and their faces to the East, and they were worshipping the Sun in the East![4]

"And He said to me: Seest thou, son of man? Is it too slight a thing for the House of Judah to practice the abominations which they are here practicing but they must fill the land with violence, and still further provoke me to anger? Behold,

---

the gateway, could see the image, which stood in the outer court near the entrance of the gateway.

[1] Jaazaniah was perhaps connected with the men mentioned in 2 Kings xxii. 10; Jer. xxxvi. 10; xxxix. 14, in any case a prominent man.

[2] The Elders could hardly have believed that JHVH had really left the land (they no doubt held that He was inseparably attached to it), but they acted as if they so believed; *cf.* Psalm x. 11; Is. xxix. 15, and note on Ez. ix. 9.

[3] The *outer gate*. The door was on the outside (xl. 22), so that the women sat outside the enclosure of the Temple.

[4] Sun-worship was probably borrowed from Assyria; of its details in Jerusalem we know nothing; see 2 Kings xxiii. 5, 11. The persistence of these foreign cults among the Jews (the Prophet speaks apparently of his own time) after the reform of Josiah (621 B. C.) is noteworthy.

they are sending a stench to my nostrils![1] But I, too, will act with fury! I will not show compassion, I will not have pity! With a loud voice shall they cry in my hearing and I will not hear them!"

WORSHIPPERS OF ADONIS HOLDING FLOWERS TO THEIR NOSES.[2]

BABYLONIAN RELIEF FROM NIMROD.[3]

IMAGE OF ASTARTE.[2]

[1] The Hebrew has: *they are stretching out* (literally, *sending*) *the branch to their nose*. This is commonly explained as a ritual procedure, as in certain Cyprian pictures (Ohnefalsch-Richter, *Kypros*, pp. 137 ff.), in which the worshipers (or deities) hold flowers to their noses; according to Spiegel (*Eranische Alterthumskunde*, III., 571) a similar ceremony existed among the Persians. The flower or branch would be in this case a symbol of the deity, derived from tree-worship (*cf.* note 10 on c. vi.). Our illustration is from the edge of a bronze dish (found at Idalium) representing women dancing before a goddess seated on a throne, with a sacrificial table. But there are serious difficulties in the way of this interpretation of our passage. The Hebrew verb can hardly be rendered *putting* (or, *holding*); it means *sending*. Moreover, the connection requires an expression of anger or disgust on JHVH'S part, parallel to *they provoke me to anger*; and it is not likely that the Prophet, after finishing his account of the idolatries, and beginning his denunciation, would go back and introduce a single feature of idolatrous ritual. Adopting the old Jewish reading *my nose* (or *nostrils*), and rendering *zemorâh* by *stench* instead of *branch* (or, changing it to *zorâh*, Num. xi. 20, *loathing*, *a loathsome thing*), we have an expression that fits well into the context. *Cf.* Is. lxv. 5; Amos iv. 10. The signification *crepitus ventris* and then *bad odor* is given to *zemorâh* by Rabbinical expositors (Kimchi, Rashi); Hor. *Sat.* i. IX. 70.

[2] Polychrome Bible, Ezekiel, pp. 110–113.

[3] Illustrating a spring festival celebrated with sacred sprigs. After Layard.

The passage is of importance, and as the *Polychrome Bible* cannot as yet be supposed to be in everybody's hands, we deem it advisable to make the quotation complete by adding to this passage Professor Toy's comments:

"The image that aroused JHVH's indignation was still standing where it had formerly stood (v. 3). It was, perhaps, an Asherah-image such as that which Manasseh (B. C. 690–643) set up in the enclosure of the Temple (2 Kings xxi. 7); if this was destroyed by Josiah (B. C. 623; *cf.* 2 Kings xxiii. 4), another may have been set up after his death. The name *image of* (that is, which provokes His just) *indignation* (AV, *image of jealousy*), is given to this particular idol apparently because it stood openly at the altar-gate, usurping the rights of the God of Israel, and forcing Him to leave His sanctuary (v. 6). The precise nature of the worship connected with it is unknown. The cult of the Phœnician Asherah is illustrated

TERRA-COTTA OBJECTS, FOUND IN CYPRUS.[1]

by a number of terra-cotta objects excavated in Cyprus. The figure here given (height 7⅛ in.) is probably as early as Ezekiel.[2] As to the following four illustrations, the first two represent the front and back of a Terra-cotta Cone (probably used as a censer). We see, in front, Astarte in a niche, and, on the back of the cone, the doves of Asherah, the holes representing openings of the sacred dove-cote. The third object is a Terra-cotta Pillar of Asherah (height 12½ in.) excavated in Cyprus and now in the Royal Museum, Berlin. Finally we have a terra-cotta idol of a Sacred Tree, from the sanctuary of Asherah (Aphrodite) at Chytroi, Cyprus. This object was originally fastened to a flat, circular terra-cotta base. The two cuts (which may serve as illustrations of one form of Western-Asiatic

[1] Polychrome Bible, Ezekiel, pp. 110–113.

[2] See page 526, "The Image of Astarte."

Semitic worship of the seventh and sixth centuries B. C.) represent a terra-cotta vessel (probably a brazier or censer), in shape of a ring-dance, and a Sacred Ring-Dance as performed at religious festivals. Three bearded men are apparently dancing around a flute-player (the figure of the third dancer is broken off). This was probably a votive offering (height 5½ in.). These Cypriote objects are perhaps all of Ezekiel's time.

"The *reptiles and beasts* probably represented forms of old-Israelitish worship (*cf.* 2 Kings xviii. 4); a borrowing of Egyptian cults is improbable, and there is no trace of such worship (except snake-cult) in the contemporary Phœnician remains. The Greek Bible omits these two terms, but the connection suggests some-

RING DANCES.[1]

thing mysterious, mystic cults like those of Is. lxv. 3–5, secret services to which only the initiated were admitted.

"Tammuz is the Babylonian *Dumuzi* (Du'ûzu), perhaps originally the spirit, or god, of grain, whose annual death and resurrection were celebrated in popular festivals (*cf.* FRAZER, *The Golden Bough*, I., 278). In Syria and Phœnicia similar rites were performed in honor of a spirit or deity who was termed *The Lord* (Phœn. *Adôn*, Greek *Adônis*; see Lucian, *De Syria dea*). The illustration on page 529 (from a silver dish of Curium, on the southern coast of Cyprus, and now in the Metropolitan Museum, New York) represents Adonis, with an apple, and Astarte, on couches, facing a sacred table, a procession of musicians, and a

[1] Polychrome Bible, Ezekiel, pp. 110–113.

procession of worshipers bearing gifts to a sacred table (*cf. Am. Journal of Archæology*, 1888, pl. vii.). The woman behind the musicians carries in her right hand an amphora, and in her left a 'garden of Adonis.' The Israelites seem to have borrowed this cult in the seventh century from Assyria; they may possibly, however, have got it earlier from the Phœnicians (see Is. xvii. 10). In later times the festival contained licentious features; whether or not these obtained in Ezekiel's day is uncertain; to him this cult is abhorrent because it is not worship of JHVH. The mythical interpretations of the rites connected Tammuz with Ishtar (see *Records of the Past*, I., 143: IX., 127; *cf.* Jastrow, *Religion of Babylonia and Assyria*, Boston, 1898, pp. 482, 564, 574, etc.), and Adonis with Astarte (and so with Aphrodite).

WORSHIP OF ADONIS. SILVER DISH OF CURIUM.[1]

The Adonis cult is described in Isaiah xvii. 9–11, which in Professor Cheyne's translation reads as follows:

"In that day shall thy cities be deserted
Like the deserted places of the Hivites and Amorites,
Because thou hast forgotten the God of thy safety,
And the Rock that is thy bulwark thou hast not remembered.
Therefore, though thou plantest little gardens with shoots for Adonis,
And stockest them with scions dedicated to a foreign god,
Even though as soon as thou plantest them, thou fencest them in,
And early bringest thy shoots to blossom,
Therefore the harvest shall vanish in a day of sickness and desperate pain."

[1] Polychrome Bible, Ezekiel, pp. 110–113

Professor Cheyne adds the following comment to his translation:

"The worship of Adonis or Tammuz, with whom Naaman (the name used for this god by Isaiah) may be identified, was of Assyrian origin, but also prevalent in Phœnicia and in Syria (*cf.* the proper name Naaman, 2 Kings v. 1). We even find some traces of its existence in Palestine; see, besides several doubtful passages, Ezek. viii. 17, and compare names such as *Naaman*, the name of a Benjamite clan (Gen. xlvi. 21, and elsewhere), and *Numâna* and *Nâmâna* among the names of places in Southern Palestine conquered by Thothmes III. (see the list on the walls of his temple at Karnack). The two latter names suggest that the worship of Naaman or Adonis was traditional in certain places in Southern Palestine, and upon occasion may have sprung into fresh life (*cf.* Is. ii. 6). In Northern Palestine, of course, such a revival of the worship of Adonis was still easier, and an occasion for it had arisen when Isaiah wrote. At a somewhat earlier period it might have been natural for the Northern Israelites to seek the favor of Assyrian deities. Since then, however, political circumstances had changed, and the Northern Israelites had a good hope that, with the help of Syria, they might hold their own against Assyria. Once more, therefore, they *forgot* JHVH, and devoted themselves to an alien cultus, and this time to that of a Syrian deity, Naaman or Adonis. The *Shoots of Adonis* (Naaman) remind us of the so-called *Gardens of Adonis*, of which there is evidence at Alexandria, at Athens, and, as we might expect, in Cyprus, and which may be presumed to have been coextensive with the worship of that favorite deity; and the fact that from verse 10 onwards Isaiah addresses Israel as a woman may be explained by the prominent part taken by women in these observances. The "gardens of Adonis" (which were planted by women) consisted of baskets of earth, sown with various plants, which quickly shot up, and as quickly withered in the sun. This was a symbolical representation of the fate of *Tammuz yearly wounded* (Milton); and some idea of the importance attached to it may be gained from the procession on the evening of Good Friday, still customary in Cyprus. Just as the *gardens of Adonis* were placed round the bier of the dead Adonis, so the bier on which the figure of the dead Christ is placed, is decorated with the modern equivalent of the *gardens of Adonis* (Ohnefalsch-Richter, *Kypros*, pp. 132 f.). The prophet Isaiah seems to have extracted from this custom an omen of the speedy fall of the Northern Kingdom."

CYPRIAN WOMAN, CARRYING THE "GARDEN OF ADONIS."[1]

[1] Polychrome Bible, Ezekiel, p. 146.

THE SONG OF THE WELL.

The old Testament, we must remember, is not the entire literature of Israel, but a fraction only, and this fraction is not preserved in its original form but in a revision made by priestly redactors for the purposes of serving as a devotional manual. Everything which did not serve this end was discarded and we owe it to the oversight and carelessness of the redactors, sometimes to a misinterpretation of the meaning of the text, if now and then some other relic has peradventure been preserved. The most important and most interesting folk-poetry preserved in the Bible is the Song of Songs, a collection of love-songs and bridal-hymns, some of which are so shockingly sensual that it is astonishing how they could have been received in the canon, but others are so beautiful that they belong to the very best productions of erotic literature. Take for instance these lines:

"Set me as a seal upon thy heart as a seal upon thine arm:
For love is strong as death jealousy is cruel as the grave:
The coals thereof are coals of fire which hath a most vehement flame."

Prof. Karl Budde has succeeded by a marvellously keen text-criticism of the passage in Numbers xxi. 14–18, in restoring "the song of the well" quoted from the *Book of the Wars of Yahveh*. He assumes that it was a part of the ritual of declaring one's ownership of a well, and the whole stanza reads thus:

"Spring up, O well, Sing ye to it:
Thou well, dug by princes, sunk by the nobles of the people,
With the scepter, with their staves: Out of the desert a gift!"

Professor Budde, speaking of the nomadic habits of the patriarchs and the desert life in the steppe of Southern Judah, says:[1]

"Springs are there the most precious possessions, without which one cannot live, as Achsah, Caleb's daughter, declares (Judges i. 15; Joshua xv. 19). Men dig for them zealously, and if one is found, as by Isaac's servants (Genesis xxvi. 19 ff.), the finder is rightly the owner. But the precious possession is also a cause of strife and danger; men contend for it as for movable goods (Genesis xxvi. 20, 21); they take the well with violence (Genesis xxi. 25), and refuse the use of it to

[1] *The New World*, Vol. IV., No. XIII., pp. 136–144.

the rightful owner. Thus wells become a subject of law. There is needed a solemn, as it were original, determination of the ownership; in case of need this is assured through a solemn oath and covenant among the neighbors and contestants: Abraham does so with Abimelech (Genesis xxi. 30 f.). Before the law, it is not the servants who have dug the well, but their lord, the tribe-father, Abraham (Genesis xxi. 30) or Isaac (xxvi. 22). Even where strife and rivalry have not occurred, they may arise in the future. The same well may be found more than once and be claimed in good faith by the later finder, or to the first real finder dishonest persons may oppose the claim that they discovered this well long since, so that it belongs to them. Then witnesses are demanded, since written deeds are not known to the nomad, and in order to have many of these witnesses and impress the facts inextinguishably on the memory, the clan is called together immediately after the finding, and the ownership of the well is solemnly declared. This takes the form of a symbolic act. The head, or heads, of the clan take their stand with the sign of their rank, the sceptre-like staff in hand, the same emblem as with the Homeric princes; and in order that the testimony—'Sheikh Abraham, Sheikh Isaac, has dug this well'—may receive full and proper expression, they go through, symbolically, the act of digging with their staves.

"We hardly go too far if we assume that with this end in view, the well, after being found and dug, was lightly covered over or stopped up, so that the sceptres of the sheikhs could remove the obstruction, and thus they became implements for digging. It is a symbolic act, such as is still practiced with us, at the laying of the corner-stone or capstone of a building, in the first spade stroke for a canal, or the last stroke in cutting a tunnel, or even the handful of earth thrown on the coffin of a relative or friend. This, then, is the course of things which we may infer from the few lines of our song, after being enlightened by the events related in the history of the patriarchs."

The song of the well must be very ancient, for, says Budde:

"In our song the new giver of life is greeted as a highly welcome guest, as living personality. This certainly takes us back to primitive times when all life, especially in the desert, was revered as divine, and every spring and every green tree was the seat of a divine being to whom men owed thanks and whom men took pains to make friendly."

There is no need of entering into the details of Professor Budde's lucubrations, which consist in explaining words, one of which, "Mattanah" (i. e., gift), was wrongly interpreted as a name. Budde is right in his claim:

"We have succeeded in so supplementing a beautiful little folk-song that we may now regard it as complete. This has been done without adding a word, or even a letter, to the received text, or taking one away."

THE ROMANCE OF MORDECAI.

The latest importation of ancient mythological lore into the Bible is the book Esther which was presumably written at the period of the Maccabees, either shortly before or shortly after their final victory. We must assume that the Jews living in Babylonia, though remaining faithful to their religion, formed the habit of celebrating their festivals, and the feast Purim is nothing else than the celebration of Marduk's victory over Tiamat. The name of the festival is foreign, and Purim is twice explained to mean lots (chaps. iii. 7, and ix. 24). Professor Zimmern derives it from *puhru*, assembly, viz., the assembly of the gods convened for the purpose of deciding the destinies or lots of people. The name Marduk was changed to Mordecai. Mordaka would mean in Babylonian "the man belonging to Marduk," or perhaps "the man representing Marduk at the feast of Marduk." The name of the goddess Istar was changed to Esther; and the evil-monger of the story, Haman, must most likely be identified with the Elamite deity Hamman. Haman's wife in the Hebrew story is called Zeresh, and the consort of the god Hamman is Kirisha. The book of Maccabees mentions "the Mordecai day" as being celebrated on the fourteenth day of the twelfth month, and we cannot doubt that this is but another name for Purim. The style of the book is apologetical and proves that the feast had to struggle for recognition. Apparently there were some orthodox people who did not observe the day, and the author of the book Esther purposed to establish its title to a national holy-day. To treat the book as history betrays a childlike *naiveté*. It is a romance, a humanised myth. Though the moral tone of the book is by no means elevated, it ranges high if judged purely on its merits as a piece of literary composition.[1]

The critical earnestness and iconoclasm of the Jewish redactor, however, found its reaction in the age of Christianity; in fact, Christianity may be regarded as the reassertion of elements that

[1] An excellent summary of the Biblical text-criticism of the book Esther has been given by Prof. C. H. Toy in his article "Esther as Babylonian Goddess." The *New World*, Vol. VII., pp. 130–144.

are older than Judaism; and when we compare the story of Christ with the Marduk myth and other pagan stories of world-saviours, we shall discover a remarkable resemblance and cannot help thinking that we are here confronted with the reassertion of that Christianity which existed before Christ. The well-known sentiment of Augustine, who says that Christianity is not a new-fangled doctrine, but existed from the beginning of the world, is, in this sense, founded more deeply on fact than some Christians of these later days believe.

The rationalistic spirit of the Jews kept out of the Old Testament every belief in the immortality of the soul. The idea of a future life is neither combated nor asserted, but simply omitted—a fact which is the more strange as the surrounding peoples, especially those more civilised and more powerful than the Jews, the Phœnicians, the Egyptians, the Assyrians, and the Babylonians, including the ancient Accadians and Sumerians, did most emphatically believe in immortality. The omissions of these notions can be attributed only to the same reasons for which mythological elements have been discarded by the Hebrew redactors of Babylonian and Egyptian fairy-tales and myths.[1]

In the two centuries preceding the Christian Era, the belief in immortality, however, began to assert itself in Judæa, if indeed it was ever entirely eradicated; but now it began to affect even the scribes and Pharisees. Since the priestly reform and during the days of the Babylonian captivity it was apparently limited to the illiterate and poor, being intimately connected with pagan rituals, such as the Tammuz festival, and superstitious practices of conjurers and witches. This sentiment is plainly expressed in Jesus Sirach xvii. 24–27, where we read:

"I hate idolatry [viz., ceremonies having reference to the dead or the state after death] with all earnestness: Who will praise the most High in Sheol?

"For all the living can praise, but the dead that are no longer cannot praise.

"Therefore praise the Lord whilst thou livest and are whole."[2]

---

[1] For further details see "The Babylonian and Hebrew Views of Man's Fate After Death," *The Open Court*, Vol. XV., No. 6.

[2] Similar passages occur in Psalms vi. 5; xxx. 9; lxxxviii. 11; cxv. 17, and Is. xxxviii. 18–19.

Ecclesiastes goes so far as to say that man hath no pre-eminence above a beast, and states in very strong and shockingly clear language the materialistic doctrine that he is dust and will return to dust.[1]

The spirit of the Old Testament Apocrypha plainly reflects the tendency of a belief in resurrection. While they were written, the belief in immortality became closely associated with the growing hope for the appearance of a Messiah. And the Messiah was at once identified with the saviours who were so much praised and glorified by pagan priests. The Old Testament Apocrypha represent a stage of transition to the New Testament literature.

Zarathustra, the prophet of the Persians, preached a religion which proclaimed the coming of a saviour (Saoshyant), born of a virgin, and righteousness incarnate, who would establish a kingdom of God on earth; and the sacred books of the Persians proclaimed that then the dead would be resurrected, a great judgment would be held by the saviour, the bad would be condemned to the pit, while the good would inherit the earth and be clothed with transfigured bodies that cast no shadows. The daily prayer of the Persians was for the coming of the kingdom of God, which was conceived as a kind of Pentecost, or movement caused by the holy spirit of God. All these pre-Christian ideas reappear in Christianity, and the Persian belief is by no means isolated. The same keynote thrills through the stories of Greek saviours,—Hercules, Theseus, Orpheus, Bacchus, etc. The Trinity idea of Christianity is in a pagan fashion anticipated in the Egyptian and other religions. The Egyptian Osiris, Isis, and Hor form a trinity. The god is slain by Set, the powerful principle of evil, but he is resurrected in Harpocrates, which means "Hor the Son," who avenges his father, and is worshipped as an incarnation of his divine father. The same idea underlies not only the myth of the Syrian Atys, but also that of the Greek Adonis, who is none other than the Phœnician Adon,[2] which means "the Lord," being a conception which celebrates the dying and rejuvenated God. And the Phœnician Adon again is only another version of the Babylonian myth of Tammuz, the god that dies and is resurrected.

EDITOR.

---

[1] Ecclesiastes iii. 18–20.

[2] The Hebrew *adonai*, "my Lord," which designates God, is the same word as the Phœnician *Adon* and the Greek *Adonis*.

THE CONTENTS OF RELIGIOUS CONSCIOUSNESS.

THE following paper is a preliminary examination of a large amount of material collected during the past three years with the help of a set of questions.[1] They were primarily formulated to bring to light the motives of the religious life of our contemporaries and were thus to contribute to a wider investigation in religious dynamics, a field of research too long neglected in favor of historical studies.

It has seemed to me desirable before submitting the collected material to a detailed analysis and, for that purpose, breaking into fragments the individual biographies, to consider and compare them together in their integrity with the unpretentious purpose of gathering a few general impressions which may serve as a preparation for the more systematic investigation to come. It is accordingly little more than samples of the data collected, accompanied with a few comments, which is now placed before the reader.

The reader will note that although the investigation was not

---

[1] See my introductory paper in *The Monist* for January, p. 194. The illegitimate and illogical use made of late of information secured by means of printed questions has cast more or less obloquy upon the method itself. Yet, it is clear that the *questionnaire* method of collecting data is not in itself open to any objection: it brings information, and that is the end to be attained. It is only the interpretation and the use made of the material which may be illegitimate or misleading. Each particular investigation is therefore to be judged separately according to the use made in it of the collected answers. The questions circulated inquired into the reasons for the religious practices (public and private); for the circumstances, places, etc., exercising particular religious influence; for the most characteristically religious experience and for a discrimination between religious and non-religious feelings, thoughts, and actions.

limited to Anglo-Saxon Protestantism, the material now presented is almost entirely from that source.

I do not hesitate to give in full a number of the more typical or interesting answers, for if we know well enough what the individuals among whom we live are *supposed* to believe and what they *pretend* to believe, we are but very indefinitely acquainted with their *real* beliefs, hopes, expectations, and private practices. The reader will, I trust, agree with me in thinking that a student of human nature—and who is not, or would not be, a student of human nature—could not easily find objects more worthy of his attention than sincere, careful, and relatively minute autobiographical descriptions of inner religious life. Moreover, if he has learned from the teachings of science what is the source of true knowledge and the foundation of reliable philosophy, and has in consequence become weary of the long-winded, loftily-worded discourses upon religion from theologians and philosophers who have strayed away from the fulness of life into a narrow intellectualism and have thereby become in some measure artificial creatures, he will surely welcome the publication of the human documents contained in this paper.

* * *

The frequent inconsistencies, the unmeaning explanations given by people from whom one has learned to expect rational behavior, and the oft-recurring negative answers, indicate how little reflexion is given to religion, how much it is a matter of uncontrolled impulse. To this same conclusion, as well as to the dependence of the intellect upon the will, points also the very astonishing indifference to objective truth—to the objective reality of God, for instance—to rational proof, to logical inconsistency, in people who, in other spheres of life, do not lack scientific sense. The supremacy of the fundamental life-impulses over the directions of the intellect, of the unconscious over the conscious, affirms itself with uncontestable significance in these records: not what is objectively real or what is logical, but that which ministers to the approved needs and desires, is the "religiously" true. These records show also how the affective relations of man to the divinity

have changed. Freedom and equality are in modern society the key-note of the relation of the individual to his fellow men; it seems to be becoming also the key-note of his relations to God. The feeling of freedom towards God has largely supplanted the duty-motive which the Catechisms continue to inculcate: action in obedience to God's command is out of fashion; it is what is right and what is best which is now the favorite reason for conduct. Even a certain feeling of equality, monstrous as this may seem, has passed into the attitude of the people to God: awe, reverence, worship, appear only dimly and not as frequently as is assumed, in the religious consciousness of the democratic Anglo-Saxon.

The startling diversity displayed in these records which, after all, come from people of the same civilisation, is probably what first arrests the attention. What a disparity between religion according to the councils and religion as the infinitely larger breath of life has made it! The discrepancies are not only in the externals of religious life, they show themselves in the inmost consciousness of the individual; it is often a question of different hopes and different affective needs: what is "bread of life" to one is dregs to the other. If this fundamental diversity comes to us as a surprise it is in part, no doubt, because we have been accustomed to the uniformity of outward religious conformity. The stoutness and persistency with which theologians have guaranteed the same spiritual food to agree with everyone of the children of men, if only they would try it, has also helped to obscure the fact. The widest and deepest difference obtains, of course, between the religious and the non-religious—for there are among us non-religious individuals, as we shall see presently. We begin with the former.

The records of those who make claim to some kind of religious life might be classified in several ways. They might be distributed, for instance, among the four groups of the following affecto-motor classification: 1. The active, aggressive, and non-emotional. 2. The active, aggressive, and emotional. 3. The active and emotional. 4. The passive and non-emotional.

We prefer however a freer order of presentation.

If we have introduced in the following cases three only repre-

senting official, traditional religion, it is because it seems a sufficient, although not a proportional, representation. The "Independents" evince more spontaneity; they express real and not conventional, or artificially acquired, needs and ideas. It is therefore to them that he who desires to know and understand the individual forces directing the evolution of religious life, will give his chief attention.[1]

CASE I.

Case I. is a young woman of college and university training, communicant member of the Presbyterian Church; a very intelligent, rightly ambitious and proudly confident person, with an unusually exalted idea of herself and a correspondingly high sense of her responsibilities. How little use she has for God and, generally, for the saving institutions of the Christian religion, although she maintains a close affiliation with an evangelical Church, and yet, what a passion for moral growth! Is her "religious" life anything more than the expression of a will striving to realise a moral ideal? The conviction of sin—guilt—so essential in theoretical Christianity, is not to be found in her consciousness any more than in that of most of the following cases. Awe and adoration hardly appear; and what there is in her experience deserving of these names might be removed without substantially modifying her "religious" life. As to intellectual doubts, they stand outside and do not interfere with it. She says:

"My idea of religious practices may be divided into two classes: (1) Those developed by associations of early training and home life. They include acts connected with ordinances (i. e., aroused by them) or performed during, or preparatory to, them. (2) Those performed to satisfy a desire for *things of permanent value;* they are not exclusive of (1) but are not always identical with them.

"As to (1) I realise the motives; they are habit, the desire for peace on that subject at home, sometimes a willingness to influence others towards a spiritual life, a feeling that it is good moral discipline to conform to the wishes of others. As to (2) I am not conscious of the motive at the time of performing them. But I

[1] When we have had several communications from the same person, we have combined them; here and there we have abbreviated; in other places we have supplied a few words in order to avoid repeating a question. For the rest the statements of our correspondents are reproduced verbatim in small type.

can often reason out afterwards the chain of succession. They simply appear in the course of events as the outcome of a desire for the *eternally good*. This will appear more fully below.

"I perform public religious exercises often simply because others are doing so and I do not wish to appear refractory. Frequently it is because of a will to come into relation with a loftier personality, to make my own particular will identical with a universal will, to get away from my own selfish thoughts. As to my regular evening devotional exercises, they are partly carried on because of habit, but in a larger measure because of a feeling of need for communicating with a higher personality, or perhaps, rather, because of an intense longing for a higher experience, a purer and larger existence. The spontaneous private devotional outbreaks (not 'exercises,' exactly) are described later.

"Neither public nor private practices are usually, at the time, done with a conscious end or purpose. But afterwards an end or purpose may be reflected upon and the conclusion reached has probably a large share in moulding my attitude for the next similar act. The implicit purpose or end, except when the actions are merely imitative or politic, is a purification of the feelings, a steadying of the intellect, a discipline of the will.

"I never feel inclined to religious practices in the sense of (1) unless they also include (2), although, when at home, I teach a Sunday School class, play the piano at Sunday School, and act on Church committees and sometimes sing in a choir.

"The circumstances and objects which prompt me most powerfully to religious activity are the following: when I am very tired of myself; the unselfish act of another person; the climax in the character development of an analytical novel; the finest parts of a piece of music; a strong dramatic presentation; when the hero or heroine commits the decisive deed for good or evil,—in short, anything which loosens one's feelings, when these are followed *by a decision* to be a person, to stand for the right sort of things, to cultivate an influence for self-control.

"The religious inclination seized me when I was 25. This was the result of discovering the true meaning of a fact which I had previously misinterpreted. This discovery led to my most characteristically religious experience. It may be described as an earnest and continued effort, during about two weeks and then gradually abating in intensity, to cultivate a sudden virtue, the lack of which had been suddenly and luminously revealed to me during a state of strong emotional excitement, and to suppress some evil tendencies of which I became aware. Emotionally it was characterised by a loosening of the feelings and great nervous disturbance; intellectually, by a tremendous rush of ideas. The circumstances were such as to bring a complete distrust of my own powers and the consequent determination to give myself over to the Divine Will, whatever that might be."

In answer to further questioning regarding this experience, she wrote:

"As to telling more explicitly what I mean by 'a determination to give myself over to the Divine Will,' perhaps you can get my meaning from the following, although this is only an account of the significant part and does not include a description of marginal and background emotions; neither is it in any sense intended to describe the occasion.

"As far back in my life as I can remember I was afflicted with a peculiar (insane, if I had not been so young) idea that I was destined to be the greatest person, excepting Christ, who had ever or would ever live. I just took the fact for granted. This inherent notion of mine, however, never showed itself in any particularly conceited action or utterance. On the other hand, I was excessively shy. When, at the age of about five, I learned from the infant-class teacher at the Sunday School that Solomon was the wisest person, I felt dreadfully jealous and forsaken. For several nights I prayed very earnestly that God would reveal to me by sign whether the Bible meant that Solomon was the wisest person or only the wisest man. For in the latter case my brilliant destiny would be saved. I got no sign, but yet hoped with great tenacity that I would discover that the teacher had made a mistake. This inner assurance of my future greatness lived with me until after I had graduated from college, although at a greatly decreasing rate. I looked upon such names as Sir Isaac Newton, Shakespeare, Goethe, with a condescending tone of mind because their fame was quite inadequate to that which I had set for myself. Even as late as the age of twenty-five, I still believed that somehow (it seemed very visionary, though) the time *must* come when the world would feel me. But at that age, by a very simple incident, the worthlessness and folly of all my previous ideals were flashed up to me. I saw that I had simply passed by the most important thing in life, and had been the most intensely selfish, egoistic, conceited person who ever lived. In the misery which followed I promised God (there was a question in my mind what or who God was, but 'Divine Will' seemed to express it best) that henceforth I would live for the every-day use I could be to human beings, even if my intellectual development suffered in consequence. I began to feign ignorance before people whose opinion I valued, in order to discipline myself against intellectual vanity. I felt that if I could succeed in doing even one useful deed, I ought to be grateful, for the blackness and emptiness of what I was was extremely humiliating. But there was no remorse in all this. It seemed that what I had done was an inevitable part of my former nature, and that without the little incident which revealed me to myself, I should have continued in the same road to pursue evil, through no intelligent choice on my part. My misery was simply the accompaniment of a very unflattering self-illumination. This, then, the decision to live for the good of others rather than for my own fame, and sealing the decision by a promise to a vaguely apprehended supreme personality, constructed according to my need,—was what constituted a yielding to the Divine Will.

"The foregoing explains my present attitude, but in childhood God was a very real person to me; that is, I thoroughly believed He existed in human shape,

only larger and more beautiful, and that He took a very personal interest in my affairs, although I was always disappointed in not receiving signs from Him. I believed that He loved me enough to overlook my faults. Everything I intended doing was confided to Him, and even before doing that which I knew to be wrong I would sometimes kneel down and tell Him that He knew I was a miserable creature and could not help it. However, I never loved Him, because I secretly doubted the character of a Being who was so cruel as to send His only son to suffer for the sins of the world instead of coming himself. I had many other grievances against Him. These, of course, were all the result of childish ignorance.

"Religious and non-religious thoughts and feelings differ only in degree and in a conviction—always emotional, and very often intellectual—of the eternal significance and genuineness of value of the former. Other thoughts, feelings, and acts may seem desirable and valuable, but those I call religious carry a conviction along with them of their pure eternal worth and (whether as a result, I do not know) they are more intense. Religious experiences are also accompanied by a longing to feel the bonds between our own personality and a supreme personality.

"Here are some concrete examples of the difference between a religious and a non-religious experience: I see Henry Irving's presentation of Robespierre. In the prison scene, for instance, I appreciate his splendid acting and find pleasure in the realistic stage setting. I shudder at the awfulness of the situation. I run over the events of Robespierre's life which led him to this dreadful doom. But these thoughts and feelings are not religious experiences unless they induce, or are interwoven with, a will on my part to live for the best in life myself, to surrender my own private interests to the common welfare, to yield myself over to a larger experience. If this will is valid, it will carry me over into a useful, an eternally valuable, action. Or, in considering a treatise on physiology, I think over fact after fact with no perceptible result as to overt acts,—there is nothing religious in this. But if I chance upon a thought which attacks me unmercifully, which shows me that my previous acts were unhygienic, then, straightway, at the first opportunity, I leave off those things which I had previously done and do those necessary things to health which I had not done,—this, introducing a willingness toward permanently useful actions, would be a religious thought.

"To sum up, I think that the religious experiences always involve a will to live according to the eternally valuable on the conative side; on the side of feeling, a longing for a felt bond between one's own will and a universal will, and on the cognitive side, a conviction of a desire or act. In my own case, there must also be a preceding truth which seizes me with great force.

"My most intense religious experiences always come on after discovering that my ways have not fallen in with the general harmony of things. There is an inward blush of humiliation and then, or perhaps at the same time with it, a desire to be better; this desire gradually increases until it ends in prayer. When alone I

often kneel in prayer and then often arise to my feet and, after the feeling has subsided, I have found my right arm, or both arms, pointing upward."

I had inquired how it happened that the word God did not appear in her first answers. To this remark she replied:

"Nothing concerning God, in so many words, appearing in an introspective view of my religious consciousness does not show that an idea of God is entirely lacking in it, but only that since the content of the idea is very hazy, I tried to resolve it into plainer terms and found that it could be interpreted into experiences of more common order. In my purely emotional experiences, I have no distinct realisation of communion with God. This, however, does not prove to me that there is no God, but rather that my development is not sufficiently advanced to realise Him as I wish. Reflectively, I use 'God' as that in reason behind which I cannot go, and I act as if I really believed in Him as a personality in order to satisfy my intellectual and æsthetic needs. But they never are completely satisfied. Here I would make a distinction between the religious and the other kinds of consciousness, namely, that the former is that refractory residue of any other which refuses to be satisfied. The purely æsthetic temperament is not religious, for it can find satisfaction in an end. But the religious soul merely stops to take a refreshing breath at æsthetic halting-places and reaches out for more. This is in opposition to the current religious claims which positively state that religion is the only satisfying thing in the universe. To me, its very virtue lies in the fact that it continually urges me onward to new efforts."

CASE II.

A School Supervisor in a small city, twenty-four years of age, belonging to an Episcopalian family. A true Knight of the Good Deed, representing, we believe, a large number of people. Some will probably say that with all her commendable passion for the good and the beautiful, she does not even know what religion means. God, worship, adoration are words apparently not to be found in her vocabulary. Whether the heavens be inhabited or not seems unessential to her. She finds a sure bottom in the joys and satisfactions to herself and to others of a pure life made increasingly valuable. Her faith rests on common-sense experience and is, to all appearances, in no need whatsoever of a supernatural sanction. She says:

"By the term 'religious practices' I do not necessarily understand anything connected with church devotions, prayer, Bible reading, etc. To me the term

means the doing of what seems the best and noblest thing possible at the right time, under the guidance of noble motives. Therefore, I generally realise the reasons for my religious actions, unless I act from sudden impulse or from sympathy. They are (1) The knowledge that only by schooling myself to do the right thing at the right time, can I build up a noble character, train my judgment, and assure myself of happiness. (2) I often feel my influence over others and know I can best help them by being myself what I desire them to be. (3) A continual desire to make my life of some real worth.

"I cannot say that I pray or perform devotional exercises in the accepted sense of the word. It is for the purpose of keeping my mind and soul alive to the numerous benefits and means of happiness open to me, of trying to be truly thankful, to appreciate, and to make the greatest possible use of what I have, that every day I spend a short time thinking about the noblest and best uses to which I may put my life under given circumstances and enumerating the many things I have to be thankful for.

"My religious needs are: to think without confusion clearly; to love my fellow men sincerely; to act from honest motives purely; and to have the power to give my life in order that I may find it. The only way in which I can satisfy my religious needs is by constant action in what, at the time, I consider the right direction, and by keeping a sharp outlook for a higher standard of comparison in all things and a higher ideal of life.

"Since to me all right actions accompanied with good spirit and intention are religious practices,' the circumstances, places and objects which incline me especially to their performance are, the companionship with noble characters, great demand for service; beautiful and inspiring scenes, towering trees, great mountains, lofty architecture; works of art, beautiful pictures, statuary, etc.; books, music, etc.

"You ask why these circumstances and objects have a religious influence. The tendency to imitation accounts for the result of companionship with noble characters; lofty architecture, towering woods, etc., lead the mind upwards, giving a desire for higher things; great storms and the like are so wonderful and magnificent that the mind unconsciously turns from the petty side of life to the great. Nature in any form is so wonderful that it makes us feel how small and yet how great we are, and after studying nature we are filled anew with an overwhelming sense of our responsibilities and our place in the world.

"The period of life when I was most inclined to church-going, prayer, etc., was from the age of twelve to eighteen.

"My most characteristically religious experience was the great uplifting influence of the personality of a minister whose church I attended for a year. He is not a great nor an eloquent preacher, but intensely earnest and an untiring and enthusiastic worker. Under the inspiration of his example I felt able to undertake and accomplish anything. He gave me broad ideas of life, a new sense of social

service; the stimulus of his example has always remained with me. I think it was a Christ-like person whom I needed to meet rather than to read accounts of Christ. This experience took place during my last year of school; I realised then that my school-life was nearing its end and I was on the outlook for characters in which earning and action were well allied.

"All ennobling thoughts are to me religious thoughts. For example, any desire to aid and uplift mankind without hope of personal reward; a desire for improvement and progress; the search after truth, etc. A religious thought differs in experience from a non-religious thought in that it uplifts, ennobles and expands the mind and soul, that is, it leads to growth and to action for the good of oneself and of others."

CASE III.

A minister of a Quaker church, representing no doubt a very large portion of the cultured American church-going public. His statements offer nothing especially interesting unless it be the vagueness of the attempted differentiation of religious from non-religious life. He says:

"I usually realise the reasons which prompt me to religious practices. They are, the needs of others, my own hungering, God's command as revealed in the Bible.

"I perform religious practices in order to worship God as an example before others and for soul food.

"I have strong religious needs, such as a hungering after righteousness, a desire to know God and His will. I satisfy them by prayer, helping others, reading of Bible and wholesome literature, mingling with religious people, singing, beholding nature and beauty in art.

"My inclinations to religious practices arise almost wholly from subjective forces. As far as I can realise, place, objects, and periods of life have had but little influence in inclining me toward religious practices. Some of these at different times quicken my efforts, but that is about all. Why this is true can only be answered in a circle, I am naturally of a reflective disposition.

"In a limited way, there is a slight comparison between religious and non-religious emotions or feelings. For instance, a game of football will sometimes awaken a so-called enthusiasm. The difference seems to be in the trend of this sort of an enthusiasm and that quickened by a powerful sermon. The game will seem to pull toward the animal in man, while the sermon will tend to make forget the animal.

"Yes, there are thoughts which I would call religious, if a line may be drawn between secular and sacred. The lines can scarcely be drawn more closely than between mineral, vegetable, and animal; still there is a difference. Examples of

religious thoughts: those concerning the brotherhood of man, or, better, a personal thought concerning relationship with Jesus. The difference between a religious and a non-religious thought is about the same as concerning emotion; it is the difference that comes from having thoughts not on those things that are beneath but on that which is above.

"When in a religious attitude, I experience a feeling of self-helplessness, of utter dependence upon aid beyond self, a desire to obtain that aid and to rid myself of all hindrances to its coming, a sense of the great need of humanity, sadness that mankind is indifferent to its own need and to the need of others, a feeling of thankfulness and praise."

CASE IV.

A new motive comes to the front in Case IV. No more the strenuous mood, the readiness for the strife, the aggressive advance of Cases I and II: the tender emotion absorbs everything, stifles action and becomes an end in itself. It is an illustration of an extreme religious type not frequently met with in Anglo-Saxon communities. She was brought up in the atmosphere of the "old blue Presbyterian Calvinistic hell and the devil." She is now a communicant in the Episcopal Church, but it is merely to kneel with her daughter, for she does not like sects and creeds and "longs for the time when they will give place to one grand, loving worship of the Creator and love for our neighbor." There is no troublesome consciousness of sin in her experience, at least not after the early stirring of emotion under Presbyterian teaching. One of the several valuable points of this document is the light it throws on the relation of faith to intellectual conviction. Arguments seem little more than excuses or occasions for belief, or non-belief, in things toward which she is inclined by her affective needs. Concerning these points Cases I., V., VI., VII. are particularly interesting. Our present subject says:

"I realise the reasons which prompt me to religious practices: they are, love for my Creator. I perform public practices to please others and private devotions to please myself. To practice religion, as I take it, is to take each day as it comes and live by the spirit of love to all who cross my path. Now, why do I do that? Why do I strive to love the Lord, my God, with all my soul and my neighbor as myself? Because Christ, who came to teach us how to live and find peace under all circumstances, told me so to do. I obey Him in that because I am so grateful

to Him for telling me of a loving Father and giving me a rock to lean against when weary; because to feel that I have love and help from my Creator is so full of help and comfort. What other motive can I have than grateful love? I love this beautiful world, I love my Father who gave me so much. I can see His love in all creation. I love my home, I love my nation, I love my fellow-beings, I cannot live without an atmosphere of love surrounding me. . . . It is not fear of death which moves me, for there is no such thing as death, simply stepping out of this world of the soul into another life which will be what I have made it by the seed sown here. Love will carry me through all changes and keep me ever happy. Yes, I desire to be happy. But that is not the reason I love my Father, I love Him as a little child loves its father. A little child never asks why; I never did. I never can look up at the stars at night but adoring love and worship fill my soul. The same at early dawn when the beautiful new day comes fresh from the hand of God. Children, flowers, fruit, trees, everything is so full of God's love; why should not I love Him? If people only realised what love surrounds them, evil would cease to exist. I hope you will forgive me for writing so much on this subject, but I cannot help it.

"All circumstances, all objects not evil, all periods of my life incline me to worship. . . . I think it is a divine part of me that loves and recognises the Divine expressions I see all around me.

"I cannot write you my most characteristically religious experiences; they are too many. They began at seven years old when in the garden at play I kept saying over and over the word eternity till I grew dizzy and fell down. At fourteen I joined the Dutch Reformed Church on confession of faith; at thirty-six I became an agnostic; at forty-seven my faith, through an intellectual process, [the reader will be able to judge for himself whether it was really through an intellectual process or otherwise,] returned to me, and for ten years I have grown more spiritual than in all my previous life.

"My religious life has been strange, varied, and full of struggles. It began when only seven, as I just wrote. I never had what they call conviction of sin, only a longing for Heaven and to be loved of God. My parents were Presbyterians. Family worship night and morning was always observed; church three times a day on Sunday, prayer-meetings, Bible Class, etc. I had to read five chapters in the Bible every Sunday. I find in an old diary, written at twelve, while I was away at school, a resolution to assemble my little play-fellows in my room for prayer at noon, and we all knelt around my bed while I prayed for their souls. At fourteen I made up my mind one day that I would become a Christian, and I shut myself up in my room, praying and reading my Bible all day. That night I told my mother how I felt, and she said she thought from what I said that I was already a Christian. I buried my face in my pillow and sent up a strong prayer for acceptance, and I saw Jesus stretch out his hand to me. I was so excited and cried out so that I was a Christian that my mother had much ado to quiet me. I then asked for admittance into the church and was put on three months' probation.

During that time I was in an ecstasy of happiness. I had the love of God at last, my sins were forgiven. The day I was admitted to the communion-table was the blackest I ever knew, all my joy was gone, and I was irritable and wretched. Reaction, of course, but I did not know it then, and no one had the sense to explain to me my condition. I struggled along for years, never again feeling that Heavenly joy nor one moment of hope. I prayed constantly, but it was as if butting my head against a stone wall. My pastor used to tell me to look at Christ and not at myself, but I did not know how.

"Finally I married an agnostic and, after a long agonising struggle with bitter tearful arguments, I felt my faith going. Henry Draper in his *Intellectual Development of Europe* finally settled the question for me, by stating that it was a common thing in those times to deify any great personage, and that Pagan customs had crept into the Christian Church, one of them being the deifying of Jesus of Nazareth. That settled my mind; I gave up my belief in Christ as God, and I left off all outward semblance of religion. But one thing nestled close to my heart and actuated my daily life; it was Christ's teachings. I clung to that, and often, in spite of my unbelief, involuntarily I cried out, 'Oh, if there is a God, let me find Him!' In twenty years of this darkness I suffered as one without hope, yet never forgetting the words, 'Take no thought for the morrow; sufficient unto the day is the evil thereof.' Then my father died. Twelve hours after his death a strange, most wonderful thing happened: his face, which had been drawn and pinched, suddenly filled with glory, every line was . . . as we imagine angels to be in Heaven. Then I said, his soul has been glorified but still holds some mysterious connexion with his body. My agnosticism had a severe strain. Then my husband died, and again came a strange experience: I, as it were, passed out of my body for two hours. All was a blank, it seemed just as it is where one takes gas. I was aroused by some one speaking to me, and I was amazed to see the undertaker there and to be told that it was two hours since death entered the chamber. They said they thought I had not fainted, as I breathed quietly all the time, my head on his bosom. They had left me alone until obliged to speak to me. Then, after his body was prepared and I stood by his bier, something seemed to lift me up, and I felt again that mysterious ecstasy, and it never left me.

"Some time after I fell into a conversation with a friend upon the relation of the soul to the body. The question was, what becomes of the soul when the brain is disordered, when there is no more sensation, when the intelligence is gone? The answer made was this: you are a musician, suppose you find your instrument out of order and cannot elicit any harmony; is that any reason why you should say that you, the player, are not there? Now, the Ego is the player; your body is the instrument. Instantly I felt that I was immortal, that nothing is ever lost, no such thing as spontaneous generation takes place, I have lived always, I have just as much right to think that I have always lived as that I am going to live.

"I see by the laws of nature that what we call evil is only the dissonance that

leads into the perfect chord; I see that this world is in a transition state and that where now the tendency is to evil some day the opposite will take place. I can see beautiful harmony in all things. I have found my God at last, the God of love, and am at rest. I am fifty-seven years old and it took me forty long years to find where I stood and to be at rest in this beautiful, flower-blooming, bird-singing world.

"I do not know how to answer your question as to the difference between religious and non-religious thoughts and feelings. The latter I take to be evil thoughts and the feeling that goes with them, either sin or worry. I never allow myself to worry. I know, now, what it means to trust. . . . Religion is trust and love.

"At church I feel restless, dissatisfied, worried, because not in sympathy. My attitude when in church is generally expressed by the prayer, 'God forgive me for not loving the church more,' and by constant effort to keep my attention upon the various long, and, to me, unnecessary prayers sent up and the 'vain repetitions,' as they seem to me. Doesn't every tree require a different soil? and so let those who enjoy it do so, but I cannot. In my private devotions I have no stated time. I pray when I need help, anywhere; I praise and adore at all times. I am always saying to my Heavenly Father 'Oh, how good Thou art to me. How I love Thee for my home, my beautiful life, my work.'"

The coming and going of the "mysterious ecstasy" first experienced during the three months of her probation and interpreted by her as God dwelling in her, cannot be accounted for on intellectual grounds. Did it not leave her at the time of her first Communion, although her faith remained unchanged, and did it not return at the death of her husband, precisely when one might have expected to find her plunged in deeper depression? Neither at the time of its loss nor at the moment of its return had any new light appeared. "Reaction" is the word by which she herself accounts for its disappearance. The real sequence of events was this: she lost her happiness and then she thought God had withdrawn from her—not the reverse.

This interesting experience becomes readily intelligible, in a person afflicted with an unstable nervous system,[1] as soon as one seeks for a physiological instead of a psychical cause. We have here, on a smaller scale, the affective oscillations observed in "cir-

[1] The intensity and peculiarity of her earlier religious experiences, her hallucinations and her trance at the death of her husband, are sufficient indications of nervous instability.

cular insanity," a disorder characterised by alternating periods of depression and exaltation. Twenty-four hours frequently suffice for the transformation of a crouching, fearful, dejected patient into a lively, joyful, and hopeful person. Religious literature is replete with instances in point, coming not only from abnormal people like Bunyan, who confesses that to the end of his life there were times when he was "filled with darkness, lost all comfort and could not find the sweetness of Christ," but also from persons who must be accounted sound and healthy. Who does not have periods of in activity, mental dullness, and comparative unhappiness more o less well differentiated from periods of greater activity and enjoy ment? It is, for instance, a frequent complaint of revivalists tha they have seasons of "dryness of heart." As to the case before us the trance determined by the shock sustained at the death of her husband is a clear indication of a nervous disturbance which we have, from analogy, the right to consider a sufficient cause, in a predisposed person, for the return of the ecstatic happiness. In so-called "multiple personalities" the new personality is frequently ushered in by a trance. It is not the place here to enter into an analysis and an explanation of the particular psycho-physiological state called "religious" ecstasy. We will only direct the attention of the reader to the extreme and abnormal forms of it, as, for instance, the case recently under the care of Pierre Janet at La Salpêtrière and the trances of some of the mystics.[1] The person referred to would lose the voluptuous happiness enjoyed in the trances as soon as she returned to a more normal physiological condition, i. e., when the contractures giving to her body the rigidity and the attitude of the crucifixion disappeared, when appetite returned and with it a superficially normal consciousness.

However repulsive it may be to see these perversions brought into relation with the trances of the mystics and, through them, with the condition called "communion with God," it is yet the clear duty of the student of religious life not to close his eyes to

---

[1] See, for instance, *Le traité de l'amour de dieu*, by François de Sales, a manual for the use of the aspirants after religious ecstasy.

the far-reaching analogies of these diverse experiences. In another place we shall have to consider this subject at greater length.

CASE V.

A practicing physician, in the prime of life. A well-balanced nature combining lively affective needs with a true regard for the rights of reason, this notwithstanding the lack of logical consistency manifest in his attitude towards God. He writes:

"The reasons which prompt me to religious practices are, the desire and the need for cultivating in me the divine. The motive of avoiding punishment never enters into account.

"I pray privately, morning and evening, in the belief that the practice is effective as a preparation to live the day in piety, and I am sure it does. I go to church Sunday morning and often in the evening also. Mixed motives lead me to church: (1) Spiritual culture; (2) intellectual pleasure—I enjoy hearing a sermon of a high degree of excellence, and the music; it often arouses in me the best emotions; (3) Social pleasure and opportunity for widening the circle of my acquaintances.

"My prayers and religious thoughts grow more ardent when I find myself on a lower level of piety—i. e., in open opposition against the dictates of my conscience. The struggle for rising above this unworthy condition may last long, but after all I do rise, and rise through the concurrence of such circumstances and thoughts that I am led to believe that Divine solicitude for my betterment is cooperating with me to achieve my new birth. Grandiose natural scenery often excites in me religious emotions; they take in me the form of prayers and religious worship, so does music of a high order.

"While I was young I sometimes gave myself up to private pious practices—the reading of the Bible, thinking and prayer, either in a room or out of town in a wild place. My endeavors centred in a desire to be like Christ. I regarded those hours as intensely religious and I experienced sometimes very strange feelings, for instance, the direct presence of Christ. But gradually, as I advanced in experience, religious thought tended to penetrate all my life and all my days, so that at present whatever I do, or say, or think, is more and more thought or done in a religious spirit, i. e., I feel a moral obligation to do all in the best way possible and in the kindest way, as God, the Giver of life and will and conscience, is good and kind.

"I might divide my feelings and thoughts into properly religious and religious in a second and third degree. When I am conscious of the presence of God, as is mostly the case when I am at private prayer, then my frame of being is very religious; during public worship it is so in a lower degree only. But, as I said above,

even in my intellectual activity there is often a religious color. Natural laws, scientific facts, become more and more frequently suggestive to me of moral laws, as if God had pictured moral principles in natural phenomena. From my present belief that the supreme purpose of my existence is the growth of Divine life in me, of more reason and more will power, results the fact that even my physical acts, and more so my intellectual activity, take a religious character. This is a growing tendency in my life; a walk for fresh air, going to bed in time, or, when necessary going to bed late, and such things, as far as I connect them with my moral obligations, become in some degree religious acts.

"My feelings when I am in a religious attitude, especially at prayer, are, *humility*—I mention my shortcomings in performing my duties, in not strictly following my reason—*and confidence:* a feeling of profound confidence in God, in the goodness of his schemes and in his ability to put them in execution in the universe. This is not merely an intellectual view, but it is a faith springing partly from scientific thought. It has a quieting, pacifying influence on my soul and makes me calm and happy and strong in practical life; it supplies me with patience and perseverance. I feel also the greatness and power of God in such a way as to admire and praise Him with gratitude and joy.

"As to bodily sensations, I, while younger, sometimes shed tears and cried at prayer; but now, for many years, it is rare that my emotions should reach a tearful intensity."

I had asked him to define his conception of God, to say whether he really believed in God's interference in his life in answer to his prayers, and several other questions; his answer follows:

"I am far from having the narrowly anthropomorphic conception of God of my youthful years. I call God the power, the principle (I do not know what it is, really, but the power, I should say), which works out in the universe all developments toward a higher order of being, which by its laws raises the standard of existence from the insensible to the sensible, from the brutal to the rational, from the transient to the immortal. So I call in me "divine" all the desires, tendencies, efforts, tending to develop in me more sensibility to beauty and truth and justice, more reason and greater power of rising to a higher level of moral life. Accordingly, reason, conscience, harmony in life, are more or less divine; the more developed they are, the more divine I regard them.

"Although I am aware that it is beyond my power to know how God is organised, and although I am sure He is not a person like me, I pray to Him nevertheless, as if he were a person, because I am sure that He is more than me; and if He is not personal, He must be more than personal, i. e., He must be able to receive communications from me and must be able to communicate to me something of Himself. When I realise that the Eternal Power of Progress is receiving my

communication, I feel His presence; that is what I mean when I speak of feeling His presence. It is a subjective state, not at all a feeling as if God were nearer or around me. In praying, I thank God every time for my existence with a pleasant sense of gratitude. I ask His assistance in my efforts for good, feeling sure that it is His supreme solicitude that I may succeed and become better.

"'How does He help me and does He at all help me?' I do not know, I sometimes believe that He does. It may be that the very act of praying is the way in which I am assisted by the Divine Power,—when I am speaking to God, it is God who speaks in me. It is strange that although I do not believe in miracles, past or present, still I persist in believing that God must have some way to help me to realise more and more my ideal of divine humanity,—these spiritual thoughts and sentiments I do not regard as merely ethical, because I intimately connect them with my faith in God, to whom I feel grateful and responsible."

"*I do not know, I sometimes believe that He does!*" Is not this, coming from a man of scientific training who prays morning and evening, a startling confession of indifference to objective truth and logical consistency and a disclosure of the supremacy of the will to believe? The case is well worth closer scrutiny.

In his first communication he stated that he prays morning and evening, asking God's assistance and returning grateful thanks for His goodness to him, *in the belief that the practice is effective as a preparation to live the day in piety*, and he added, "*I am sure it does.*" He did not, then, try to explain how the help was secured. The end of his religious practices is to obtain help when he finds himself in open opposition to the dictates of his conscience, and more generally, to further the growth of "Divine life" in him. Divine life, it should be noted, is defined by him in terms of reason, will and sensibility to beauty, to truth, and to justice. As far as the goal to be attained is concerned, there is therefore nothing in his "religious" aspirations in any way transcending natural ethics. It is only the belief that it is with the help of God that he rises to a high "level of piety," and the emotions and sentiments dependent upon this belief, which entitle his experience to be classed among the religious. But when called upon to state and explain more definitely his conception of God and of his relation to Him, it then appears that his belief in God as a personal power, able to respond to his prayers, is merely a working hypothesis acted upon as if true, be-

cause it helps him to "live the day in piety." His last paragraph leaves no doubt upon this point.

Case V. is not alone in betraying this want of regard for the stringent demands of reason and in refusing to have his actions limited within the narrow bounds of the rationally proved. Case I., who "gives herself over to the Divine Will" (although nothing is to her more obscure than the existence of an objective something represented by this appellation) and who, constructed *according to her needs*, the supreme personality she vaguely apprehended, behaves according to the same tendency. It is in evidence also in Case VII., particularly in the passage concerning her faith in immortality: the arguments she adduces as convincing have really very little weight: she believes in immortality because she wants to. It appears very clearly again in Case IV., and still more clearly, if possible, in Case VI., a Doctor of Philosophy, head of an important educational institution. In the last case, the "possibly," "apparently," "I find myself," etc., indicate not only a serious lack of intellectual conviction as to the existence of God and the possibility of His entering into communication with man, but also the non-necessity of that conviction for him. VII. believes in God about as seriously as he believes in the presence around him, in the spirit world, of his father and of his mother. Of this belief he says, "It is possibly the result of a desire that it might be so, and a feeling that it would be so if they had the power." These, and similar facts, show how far religious life is impulsive, partakes of the nature of instinct, and confirm some of the claims of the Philosophy of the Unconscious.[1] Belief, faith, are teleological attitudes. Truth, for the natural man, is that which secures the result wanted; its criterion is affecto-motor efficiency. Whatever regard we have for objective truth and logical consistency is evidently due to the practical benefits derived by conforming our conduct to their requirements. Therefore they are set aside in favor of the satisfying belief whenever there appears an incongruity between

[1] See as to the relation of faith to intellectual proof my "Studies in the Psychology of Religion," *American Journal of Psychology*, Vol. VII. (1896), p. 337 ff.

objective truth and subjective needs: to live is, after all, the first business of life. Prof. William James, in one of his late works,[1] maintains the thesis that when intellectually doubtful, we have the right, and perhaps the duty, to act as if we believed that which seems best. Whether we have the right or not, it is surely what men of all classes do, not only in religion but in the whole range of human activities, the philosophical systems not excepted. What are, for instance, theological systems but clumsy attempts to give an air of logical consistency to cherished beliefs and to provide a plausible foundation in objective facts for practices which have grown up and been maintained chiefly on account of their usefulness, real or imaginary? It is not because creeds are logically true that they are believed, but the reverse: it is the belief in them which makes them *true;* and if they are believed, it is because of the advantageous results following upon—or supposed to follow upon—action according to them. Men have endeavored to prove the existence of God, but is it really necessary that it should be done? Do we not get along just as well without the proof? With the proof many of us would continue to do as if He did not exist; just as without the proof thousands upon thousands behave as if living in His presence. It is reason which is the servant of action and not *vice versa.*

CASE VI.

A Doctor in Philosophy, at the head of an institution of learning of the higher grade; about forty years of age. Thanksgiving takes here a foremost place. It seems totally absent in the religious consciousness of so many persons that Case VI. is made particularly interesting by its prominence. That and the relation of belief to intellectual conviction are the two points most deserving of attention in this document, which reads as follows:

[1] *The Will to Believe, and Other Essays.* See also in the *International Journal of Ethics,* D. S. Miller's criticism of Prof. James's essay. Balfour, in his "Defence of Philosophic Doubt," concludes that science is accepted not from adequate reason but from a "practical need," and that, therefore, we are equally warranted in accepting the Christian religion if we have for it an inward inclination, or impulse.

"Yes, I usually realise the reasons which prompt me to religious practices. In public it is habit, or it is a desire to set a good example. In private, however, it is never so; prayer and thanksgiving, always mental, are apparently spontaneous and are prompted by the thought of some labor before me or of some success achieved.

"My motive for public worship is largely the desire to set a good example. I never got much out of public worship that I could designate as religious. Private thanksgiving is performed for no purpose, it is spontaneous; this is the largest part of my religious practice and is probably due to an optimistic nature. Prayer is performed apparently with a feeling that it strengthens me for some labor; I do not think it is influenced by fear of failure. I sometimes find myself seriously and earnestly talking to God as I would talk over a business proposition with any one—this usually at nights, on retiring.

"At the best, this seems to be the sum of my thoughts and feelings when at church: 'What a wealth of beauty, what an uplifting of soul in all this.' But quite as frequently I am not in a religious attitude. In private I experience a buoyancy, usually accompanied by evident change in the circulation. Quite frequently my thoughts find vent in conversation with God over something to be done; recently this, 'Help me get a grip on T.; the fellow has got it in him to be somebody; I don't want him to go to the devil.' My thoughts are then likely to run off on the problem in mind.

"I have religious needs, but not highly developed.

"Solitude, night, silence, incline me to prayer and thanksgiving. I feel this inclination, for instance, when alone in the forest, or at night in my bed. I think it comes from the natural awe induced by such circumstances.

"I prefer a religious service of much formalism. I have no religious feelings in public except as I am surrounded by the noble in architecture, in colored glass, in the pageantry of the church. I have knelt at some shrine in walking through the country abroad, with religious feeling, and I have done likewise in some altar in a cathedral. I prefer the Romish worship to any other on this account; but I refrain from having anything to do with it because I think it dangerous to liberty.

"My most characteristically religious experiences are feelings, mentally expressed in words, of thanksgiving to God for His goodness. Not long ago, I had occasion to work very hard to bring about a certain educational reform in a class of schools. I worked a year on it against odds that, it was said, could not be overcome. I overcame them, and the night that the matter was settled I found myself saying, in substance, this, 'Oh, God, Thou art very good to me to give me the strength to carry this through. Why should I have this success? Is it because mother or father is there and looking out for me?' Analysed, this is probably the result of a certain egotism, a spontaneous joy at success The thought that my parents influenced my life has been always present with me; it is possibly the re-

sult of a desire that it might be so and a feeling that it would be so if they had the power.

"Yes, I have taken for religious thoughts and emotions that were not so. I joined the Methodist Church once. For a few days I thought I was quite religious. Later I thought I had yielded to emotional efforts and had lost my mental poise. I remained in the Church for a number of years and worked as I could, but I always looked at my feelings for those few days as a matter for regret. I was then a boy."

The rest was written in answer to inquiries prompted by his first communication. He had written, "Prayers are performed *apparently* with a feeling that it strengthens me." I asked why "Apparently?" The reply was:

"I have at times wondered whether it might not be performed through fear, or through a desire to get on the right side of God. But it appears to me that there is no foundation for this interpretation; it rather seems to me that I feel stronger from prayer. The word is inserted to indicate doubts that have occurred to me.

"You inquire whether I believe (1) that a personal Divinity in answer to my prayer gives me strength, or (2) if I think that the increased power is a psychological, subjective effect of the prayer, or (3) whether I have any decided opinion as to this, or (4) whether I prefer to behave as if I believed in the intervention of God although theoretically I do not—of course, one's beliefs change. I have for some time felt as stated in (1). I see no reason why God should not act upon us, communicate with us, by perfectly natural means. Why should not our material brains be sensitive to certain little understood (perhaps little understandable) quasi-telepathic waves? I see no reason for thinking it particularly strange that a strong mental activity producing violent cerebral action should start waves reaching some governing mind and be communicated thence or directly to other minds, thus leading to an 'answer to prayer.' This is doubtless a feeble effort of my mind to put the whole matter on a kind of natural basis; to avoid any break in natural laws. I have not given much thought to the Bible miracles, not considering them of any moment in the great questions of Christ's teachings. I have looked upon them as stories of an ignorant and unscientific age, useless in our life. Not to put prayer into this catagory my mind has come to seek this natural base on which to build.

"As to the expression which caught your attention, 'I find myself talking to God,' which seems to indicate that my religious actions are instinctive, I can only say that I do not know how far they are instinctive. Who can?

"You ask also, 'Is not the feeling of thankfulness and thanksgiving the same when referring to a human being as when referring to God?' No. If I am thankful to a human being there is the feeling of being able to help him in return; sometimes, too, the feeling of his motive. In the case of God this is all wanting and this puts an entirely different coloring on the whole matter.

"Don't you find it strange how we all hesitate in stating our beliefs, as if (possibly) we feared that God might take our answers out of a pigeon-hole on the Day of Judgment and ask us what we meant?"

CASE VII.

A woman in the prime of life, living with her husband and one child on a "run-down plantation," fighting poverty. The religious atmosphere of her youth was, "family prayer and high temper." She is a remarkable instance of triumphant optimism. Christianity is here transcended, in her estimation at least, by an admirable pagan love, nay, worship, of nature and trust in its laws. What a comment upon certain ossified forms of Christianity this record is!

"The reasons that prompt me to 'religious practices' are an inherent love of life and beauty and the belief that there is no religion but Truth, and that my greatest happiness and well-being depends on making as much of it as possible my own. My 'religious practices' are my efforts to embody in myself, my home and my children the above belief, to learn every day more of the meaning of Life and to give the Life in me the best expression. To be an inspired mother, is the highest religious state I know. The most devotional life to me is to seek for the deeper meaning in every experience, reading and work, to find the message in everything. Ignorance is sin and to fear is evil. A mind continually open and ready to understand; the faith that all that comes to me is mine, to be understood and used; the belief that I am growing every day by being alive to Truth, these have superseded the childish groping called prayer. I do not ask for anything because I know all I need will come to me. All the strength, power, and wisdom of my life is within; growth is the law of my being.

"I have said that religion is Truth, and you ask what I mean by Truth. By Truth I mean the laws that govern our being. These laws are just as authoritative to me as a personal God. I believe they will be to all who are free from fear and the doctrines of fear as preached by orthodoxy. My religion is to learn the laws that govern my being and to live in harmony with them.

"When I say God I mean the Good, the law of my being. The question of a personal God concerns me little. The 'First Cause' and 'Our Father' mean the same thing to me. I can only explain my former statement that 'the most devotional life to me is to seek for the deeper meaning in everything, to find the message in everything,' by giving you some idea of my conception of life. I believe that life is development, growth; that death is only a form of life; that we have heaven and hell as much here in this world as we ever will; that all is Good—that is, all is ultimately Good. Good and evil bear the same relation to each other as light and darkness. The Good is our ideal; evil is our teacher to make us under-

stand the Good. The object of life is not to be happy nor to save our souls, but to live; that means, to grow. All who do this truly learn that it brings the only happiness and saves the soul from the only sin there is—ignorance. People are not divided into the good and the bad, but the developed and the undeveloped. The power of growth is more or less vital in different ones. Those for whom there is no religion but Truth, who are willing to receive any lesson unfaltering in the faith that all is well, may be called the elect; they 'walk with God,' to use the traditional expression. To find in experience needed food for growth is to find the deeper meaning in things. The value of this meaning is that it teaches how to grow, and growth is life, vitality, while not to grow is stagnation, death.

"I cannot answer your question concerning the most characteristically religious experience, as I know of no 'religious practice' but living—every day living. The time in my life when I most fully realised that all is good was some months ago when death came for my beautiful, radiant little daughter, the soul of my life and the joy of my heart. I knew all must be well on the 'other side' or she would not go there, that infinite goodness encompassed us both. I did not pray for her to be spared; it was better for her to go or she would have stayed with me. I have not prayed for years for I have no need to. Perhaps my nearest approach to religious experience was when I first realised that I was free, free from creed and doctrine and form and cant; free to grow and be all that is in my nature. Hardly a day passes that I do not think of this and feel happy.

> "'Behold I build me a nest on the greatness of God;
> I will fly in the greatness of God as the marsh hen flies
> In the freedom that fills all space 'twixt the marsh and the skies.'
>
> —*Sidney Lanier.*

If you do not find any religion in that you will hardly find any in me.

"You inquire whence came the comforting assurance I felt at the death of my daughter. From within. Every assurance of Truth comes from within; all growth is from within. All the evidence the mind can get confirms the belief that all is well on the 'other side,' until I feel that I know. It is not a matter of reason perhaps, but of a higher authority: the voice within, inner consciousness. Here is an example or two of such authoritative evidence as confirms this belief: When death approached Miss Willard, she said, 'How beautiful it is to be with God.' Mr. Moody said, 'If this is death it is glorious!' (that is the only thing I ever saw from Mr. Moody that was a message to me). It is impossible for us to solve the mystery of death now, but I believe that for those who are developed and true, at that hour when the spirit is on the threshold of another world the veil is lifted, 'Death plucks the curtain apart and awakens the sleeper with light.' I believe in immortality and for the awakened soul in individual immortality. Where the new-born soul comes from and whither it goes at the call of death, we know not. All that concerns us is to understand what we can of this part of eternity that is given us now: one world at a time is enough.

"I am now on the conscious plane of development. I grow and know that I grow. So vital is my mental life, so decidedly am I individualised, that I cannot conceive of losing my identity. The vast majority of mankind live unconsciously. I can only say for myself that I expect to enter the next world with open eyes and a conscious mind. I do not fear death. Where my child is gone I believe I will go some time; my love tells me this. But if I should learn after a while that it cannot be, then I will know that it is better otherwise: a belief in immortality is not necessary to my happiness. My love for my beautiful child is the strongest human love I can know, but we are not dependent on any human tie, we who belong by choice to truth, to Infinite Good. I trust the laws that govern my destiny."

She had said in her first letter "The most pernicious thing in so-called Christianity is the Imitation of Christ doctrine." I asked for an explanation and received the following:

"I object to imitation because it is opposed to original thought, and mental and spiritual development depend on original thought. As well let another person eat for us as think for us. One soul can inspire another, but cannot *be* for another. We must strip down to the reality. Any sane person ought to know that all he can do is to be himself; how much of that self there is, depends on his development. Whatever Christ may have been and taught, he wanted to be understood rather than worshipped. All great and honest thinkers have found that to be is better than worship, or sacrifice, or praise. Christianity has been a great factor in the evolution of the human mind, but the Christianity of creeds is fast being outgrown. One by one, men join the great minority of originals. We are not losing our religion, we are finding ourselves; we are conquering fear and learning to trust the Divine Laws that govern life. I think it is a great thing not to be afraid to be yourself.

"I am never in an orthodox religious attitude. The view from my window, as I write, of fields and trees and sunshine, upturned soil that will soon give us another lesson in growth, thrills me with joy, so does a new thought, for instance, the consciousness that I am alive and growing. When my husband puts his arms around me and tells me that he loves me I feel a thrill of joy, for love is good and passion pure. Perhaps I am happiest when we look into each other's eyes and see the same truth. The love of man and woman is the greatest power in the world and inspired nativity is the hope of human regeneration. Every child conceived in love is a child of 'immaculate conception'—all these thoughts and feelings are religious to me."

CASE VIII.

The answers of a Methodist clergyman will bring us back to familiar statements and show how far from the old, narrow, traditional currents we have wandered.

"I feel that the performance of religious practices is a duty which I owe to God as the author of my being, the redeemer of my soul and the source of innumerable benefits, both present and prospective. But it is also a joyous privilege to serve Him and to realise His gracious approval.

"I engage in devotional exercises for the glory of God, the cultivation of personal religion and for the benefit of others.

"I have strong religious needs: (1) I need clear and rational views of theological questions. I secure them by close and critical study of the Bible with the best helps I can get; but I always think for myself and, hence, I have some thoughts and theories of my own; they are not visionary but logical and true, as I confidently believe. (2) I have need of much grace to keep my heart right and to go steadily forward in the path of duty and the service of God. I do this by diligently waiting upon God in the appointed means of grace and especially in secret devotion."

In answer to the question touching the circumstances, etc., which incline most to religious practices, he says:

"'What circumstances?' Under the faithful and efficient preaching of the Gospel; in a genuine revival service and often in private meditation. 'What places?' In the House of God, at a really good camp meeting, or in an earnest, enthusiastic religious service of any kind. 'What objects?' The development of my own Christian character, the edification of the church and the salvation of sinners. 'What periods?' Always when I have a deep, rich, happy religious experience, or whenever there appears to be a special demand for Christian activity and religious effort."

His most characteristically religious experience is his "conversion." He relates it at length. The reader will find cases similar to this one in the Appendix to my "Studies in the Psychology of Religious Life," in the *American Journal of Psychology* for 1896. As to the distinction to be made between religious and non-religious thoughts and feelings, he has but little to say:

"I have sometimes prayed for certain blessings and felt impressed that my prayer would be granted, but it was not. I thought at times that it was a sin to do any kind of work on Sunday, but I find now that if it is to some religious purpose it does not matter."

CASE IX.

A man born and brought up in France, not yet forty, who has had an intellectually and emotionally eventful life. Here again the hand of needs has evidently been at work fashioning beliefs. In

his understanding of what constitutes religion and of what differentiates it from secular activity he is in substantial agreement with Cases I., VI., VII., V. On this point we shall have something to say at the end of the paper. Case IX. is as follows:

"The unique reason which prompts me to religious practices is a need, a sensation of emptiness of soul, of moral imperfections, of lack of power.

"My religious practices have no other purpose than the satisfaction of the needs just mentioned. My religious needs are so intense that I feel unhappy if I have been out of communion for a few hours in a day with some noble thought or been without some good feeling or emotion. I satisfy them by communion and sympathy with all that is pure, noble and most beautiful in the moral and spiritual possibilities of man.

"No peculiar circumstance, place, object or period of life inclines me to religious practices, for I have reached a state of almost continuous communion with all that is good. I am at almost every hour of my life in a religious attitude. However, I feel more inclined in the first hour after rising and in the evening when I am tired, and also, in general, whenever I am alone with myself.

"For the reasons above stated, my religious life has been, since my conversion, devoid of very characteristic or pronounced effervescences.

"I have given up attempting to represent God to myself; I do not feel any more the need of any image or embodiment of the Divine Principle,—a belief which is necessary to me. I can define all my religious relations with what is called God under the following two heads: (1) I feel in my deepest consciousness the need of being one with some great principle, of being in unity with some one I cannot define, but who surrounds me, in whom I am bathed and with whom I desire to be in harmony,—an all-filling Presence. There seems to take place between this Principle and me an exchange and an unification: something goes up from me, adoration, spiritual aspirations; and something comes back from the Unknown; some love goes up and love comes down multiplied richly. The effect upon me of communion with this all-pervading Presence seems to be the generation and the increase of love. (2) I have almost incessantly the deep consciousness that I am inferior to some inner ideal, to a type pre-established in me and always kept in sight. That type constantly dwelling in me and trying to guide me, I feel I *must* realise. Experience has taught me that to follow these leadings makes one happy, and to discard them causes unhappiness. I have brought down all my religious conceptions to the two above-stated fundamental instincts or intuitions. Of course, I am a follower of Christ and an imitator of His life; my ideal is to become one with the Divine, as He was one. Yet, many of the beliefs of the great Christian bodies I do not share.

"This being said, it will appear clearly that I could not do without the belief in God or the Divine, implied in what precedes without denying what seems to me

the very law and fundamental organisation of my being; neither can I find any satisfactory substitute for it.

"The difference between religious and non-religious emotions and feelings is that the latter do not proceed from the same want, or need, of the conscience, and more especially that they do not give the same satisfaction, the same feeling of peace. For example, the satisfaction of love, success in life, the contemplation of the beautiful in art, poetry or literature, does not strike in me the same chord as the inner contemplation of, or the communion with, the ideals connected with the word God.

"I class as religious all thoughts that are conducive to the aggrandisement of the inner self and to the good of humanity. I go even to the point of including purely ethical or æsthetic feelings if they promote in me a sentiment of unselfish love for the source of all that is beautiful. I would, for example, call religious the thought that this or that work carried on amongst the unfortunates deserves a share of my sympathy and, consequently, of my money, because obedience to such an impulse leads to the same feeling of inner peace as the yielding to the need for religious satisfaction.

"My experience when in a religious attitude may be summarised thus: A feeling of need, of want; a desire tending to the satisfaction of the need and thoughts oriented in the same direction. Next comes a response to desire and its satisfaction,—a sensation of peace arises."

CASE X.

As the last of the positively religious cases, let us choose one that will carry us back to the days of Jonathan Edwards and Calvin. Case X. is a French clergyman with long years of service behind him and, as it appears in his communication, afflicted by some bodily disorder which must be taken into account in interpreting his old-style Calvinism. His letter begins with general remarks:

"I feel very much that my letter will disappoint you. I know my century, and I feel that I am not in the spirit of the times. The feeling of Divine justice and of its exigencies has much weakened in pious persons. In me it has continually grown stronger. The principles are neglected, and sentimentality is put in their place. . . . Belief in the inspiration and authority of the Scriptures is weakening. . . . Moreover, I have suffered dreadfully, physically and morally: the history of Job is constantly present to my mind. I have seen the evil spirits at work trying to injure me. I have seen Satan displaying his utmost ingenuity to make me suffer the inexpressible. You will therefore readily understand that my usual mood is not one of superficial lightheartedness, that I cannot be an optimist in the

common acceptation of the word. I believe that the just will be saved,—without that certitude there can be but despair and death; but he is to be saved painfully, as by fire."

He then passes to the questions:

"I am moved to religious practices by a feeling of duty and to appease the wrath of God which rises against sinful humanity.

"I need a God who will bandage my moral wounds, who will comfort and strengthen me. I also, naturally, need to be washed of my moral uncleanliness.

"Places of worship, austere and even sad things, and especially proofs of affection and manifestations of friendship (so rare and often so unreliable) incline me to religious practices. . . .

"For many people the most characteristic religious experience is the feeling of God's love, of His goodness, compassion and readiness to succor those who call upon Him. I would not say that this is false, but its onesidedness brings it near to being false. There are wrong conceptions of Divine goodness and benevolence; those, for instance, which do not include the austere side of religion, that in it which is dark and frightful. Both feelings are beautifully expressed in the Psalms . . . there is in them infinite sweetness and also infinite fear. My experience is that, man being sinful, he must suffer, suffer much, drink also of the bitter cup of Jesus Christ.

"In my religious exercises I always experience fear towards the Holy God, who must inexorably avenge His broken law and His majesty outraged by sin."

From these people, positively religious—at least in their own estimation,—one passes gradually to the positively non-religious through a number of types differing but slightly one from the next. There is, first, the pathetic doubter, who *will* believe and who systematically closes his eyes when any doubt-breeding light comes in sight. Illustrations of this type will be given in another place. There is, further, the "unbeliever," who does not find the fountain which would quench the vague, soul-worrying thirst which remains after belief in the framework of Christianity has gone. It is a truly melancholy spectacle, the sight of a person yearning after a bright and peaceful haven and believing in its existence somewhere, but never finding the way. The best these poor people know is an occasional "thrilling of the soul, a sort of preparation for a message" . . . which never comes. These people are legion. Here is what one of them writes concerning her most characteristically religious experience:

CASE XI.

A middle-aged, unmarried lady who used to be a communicant member of a Unitarian church and is now, as to religion, quite at sea; she questions whether she is or is not religious:

"Once when walking in the wild woods in the country, on a morning with blue sky, with breeze blowing from the sea and birds and flowers around me, an exhilaration came to me that was Heavenly,—a raising of the whole spirits and nature within me through perfect joy. Only twice in life before have I had such an experience of Heaven. Once when alone I had, at seventeen years of age, a rather religious experience. It was an inclining towards prayer—but I had no prayer—a sort of receiving of the spirit, a kind of love ecstasy before love had touched me. I had to kneel. It was religion as far as I (poor me!) *know religion*."

There is in this hardly more than a moment of exuberant life, a transient phenomenon of excess in a generally depressed spirit. Even the animal frolicking in the early sunshine knows the exhilaration that comes with the vigor of the morning.

CASE XII.

This case is in some respects similar to the preceding. It is a married woman who suggests that she may be only "emotional, hyper-sensitive." What comes nearest to being religion in her life is a gentle "stirring of the soul by something in the stars and the night, something in the gold of the sun, something in the low, sad music, something in the stillness." She writes:

"Probably there is not that in me which can rightly be called religious. There is only an occasional sweet emotion of the soul, with no apparent cause and of no practical value; yet it is all that is left to me. I have not discarded my idols at once. One by one they have fallen, and their fragments are scattered along the half-broken path I have trodden. Without a God, without a Christ, looking forward to annihilation at death. What then comforts me through all the weary years? Only this; when soul-troubled I turn to the stars, or the soft tinted skies, to a picture, a statue, or book. Thoughts of the good and the true come to me. It is as though I had paused awhile in some sacred beautiful place. It also develops the soul more than the orthodox prayer. Still, it does not satisfy entirely the great, deep need of the soul, for that cannot be satisfied. Ah, these restless spirits, trying to steal away where they could partake of the highest and gratify the un-

utterable longing for things that cannot be named. If this reaching out for the beautiful, the good, and the true is a religious impulse, then, am I not religious?"

Who shall say what part of the unsatisfied cravings with which so many of us are afflicted is merely the protesting voice of an ill-used or un-used body? When the faults of our progenitors, our own faults, the circumstances of life, have led us away from a natural course of life, have frustrated the organism from its rightful functions, then some among us appeal to religion, they want it to do substitute work; they exclaim, "Oh, if I could only believe!" Even the penetrating, self-introspective Amiel mistakes the aches of a dyspeptic stomach for a yearning after God! He writes in his Journal[1] under date of the 31st of March (4 P. M): "For an hour past I have been the prey of a vague anxiety. I recognise my old enemy. . . . It is a sense of void and anguish; a sense of something lacking: what? Love, peace,—God, perhaps. The feeling is one of pure want unmixed with hope, and there is anguish in it because I can clearly distinguish neither the evil nor its remedy. Of all the hours of the day, in fine weather, the afternoon about three o'clock is the time which to me is most difficult to bear. I never feel more strongly than I do then "*le vide effrayant de la vie*," the stress of mental anxiety or the painful thirst for happiness." This "vague anxiety" of mid-afternoon hours is the curse of many. The hour of lowest psycho-physiological activity is in general from three to four P. M. Amiel need not have taken the name of God in vain on this occasion.

CASE XIII.

In case XIII. we have a type in striking contrast both to the immediately preceding and also to the positively religious cases. There is here no craving after unnamable things, no panting heart sighing after the starry heaven. Life with its parental and social duties is enough to fill her heart and mind with stolid contentment. Post-mundane matters will take care of themselves. It is a case not very far removed from the non-religious. We read:

---

[1] *Amiel's Journal*, tr. by Mrs. Humphrey Ward, p. 200.

"I never had any special 'religious experience' that I am aware of. I come of a line of French Huguenots who, of course, were Calvinists. They came to New York about 1680. In the next generation they were 'Church of England.' Long before the Revolution they were wardens and vestrymen. Coming from such a line, I was *born* to certain religious observances and beliefs and never roubled myself about the matter at all especially. As I grew older some dogmas were a stumbling-block to me, and as I read and became familiar with some truly great writers—Renan, for one—I grew more and more sceptical in a way. But I never analysed my thoughts or dwelt very long on any of these matters. I fulfilled my duties as a church member, as I understood them; brought up my children according to the Book of Common Prayer; they knew from my oral teachings 'Thy duty towards God' and 'Thy duty towards thy neighbor' long before they could read. They were baptised and confirmed, taught to visit and help the poor, teach the ignorant, tell no lies, do the fair, unselfish, and honorable thing always, as far as they knew it.

"The æsthetic aspects of outward religious (Faith) practice have always appealed to one side of my nature. I scratch out 'Faith' because during the last fifteen or twenty years I have read so much, seen and learned so much, that I am not sure what amount of faith I may have left in anything. I don't trouble about it, life is really too short to spend in dwelling much upon merely speculative thoughts. I had no idea when I commenced writing of saying more than a few sentences on these subjects; it does not interest me much. I've half a mind to tear all this 'stuff' up; you can."

It would be interesting to know how many of our Church "pillars" belong to this category.

The Non-Religious.

A widely prevalent opinion will have it that there is no room in human nature for non-religious individuals. Those who hold to this view maintain that some kind of religion—they are ready to admit that it is usually the wrong kind—is a constituent part of every human being, and they find support for their claim in the fact that there is no people, or tribe, without at least some rudimentary religion. But neither the claim that the term religion has been unduly narrowed, or that the person has not shown his inmost soul, or that it is a case of braggadocio, can account for the many cases on record of individuals who disclaim any part in religious life. It is impossible after careful investigation not to come to the conclusion that there is a large number of individuals who, although

living in the shadows of our churches, are and remain to the end non-religious persons. Their attitude cannot be brought into the religious category—stretch the sense of the word as you please.

CASE XIV.

A successful business man in middle life, ardent advocate of Henry George's Single Tax Reform, is a fair illustration of the non-religious type, when it has become conscious of itself.

"I do not perform religious exercises, public or private. To me such practices are incomprehensible, childish, and absurd. I have no religious needs. I am devoid of religious feelings. I never had any religious experience.

"I am very seldom in church. When in one, I wonder at the phenomenon of otherwise intelligent persons acting like a lot of heathens. My principal feeling is one of contempt; I also feel ashamed for them for being such monkeys. My physical state at such times is great uneasiness and a feeling of restraint and an intense desire to get in the open air.

"Religion, to my conception, is another name for superstition; it is one kind of superstition. I consider it to be utterly useless and superfluous if not positively harmful. I know many people who are more or less unhappy because of religion. . . . . The Churches are mixed superstition and hypocrisy: mostly superstition among the women and hypocrisy among the men. I deny their moral superiority. They never take the lead in any so-called moral reform. They were on the wrong side of the slavery question; they are cowardly and pusillanimous and mercenary and subservient on the present great industrial questions. . . .

"I have given conscientious replies to your questions.

"My grandfather was a Presbyterian minister. My mother was a strong Presbyterian. She believed literally. She taught me her faith diligently from my earliest childhood. She was not severe or strict, but taught in a loving and charming way. I attended church and Sunday-school until fourteen. All my early associations tended to make me an orthodox Christian. I have never met a more conscientious person than my mother was. I suppose I accepted her teachings as a matter of course, without reflexion when very young. When old enough to study physical geography, I learned that some things she believed were not true. Later, in biology, that many more things she believed were not true, and I have been learning ever since what an immense mass of superstition her belief was."

To help him to discover in himself the aspirations, feelings, and attitudes which are generally deemed religious by high-minded, liberal Christians, I sent him a copy of the answers of a person re-

sembling very much Case IX. He returned it with a letter the essential part of which follows:

"I know many persons such as you describe, but I feel no hesitancy in declaring that I am not of them. I have for several years questioned myself closely upon this very point and feel no doubt about it. I might add that I have twice been consciously at the point of death with sickness without experiencing any religious feeling, be it fear or anything else.

"You ask what I think of the attitude you describe. I regard it as the undissolved residue of a grosser superstition. I believe myself to have no feelings such as you describe, and cannot possibly stretch the term religion to cover anything that I need or crave for. I find no reason for believing in a power in any sense divine; I see no evidence that the universe is permeated with a moral principle. I think the theory of a supreme diabolical being far more plausible than the theory of a supreme beneficent being, although the evidence in favor of either is wholly insufficient to make either theory of any importance in my estimation.

"I can use more of your circulars, if you care to send them, as I know several people who are just as curious bugs, from my standpoint, as I undoubtedly am from yours."

The number of non-religious persons is very much greater than it appears. If they form only a very small proportion of our returns, it is because our questions were not framed to find their way among them; if they did, they were, in most cases, instantly thrown into the waste-basket. Moreover the majority of these persons are, doubtless, not endowed with the vigorous mental initiative which would make possible a clear realisation of their condition. They usually conform, cold-heartedly, to some of the religious customs of the circle in which they happen to live and no one ever knows the truth, not even themselves. On favorable occasions they may wonder at their religious indifference, yet never reach the revolutionary conclusion that religion is for them a mere fiction. They are legion, the men in whose life God—any kind of God—is a *quantité negligable;* they live without Him, satisfied; they die without Him, happy. The philosopher of religion forgets too easily, much to the detriment of his theories, that if there are Romanes who bemoan the day when "with the virtual negation of God the universe lost its soul of loveliness,"[1] there are also Cliffords for whom "the

[1] *Thoughts on Religion*, page 28, 29.

fruition of human love and the fulfilment of human duties" are sufficient to happiness.[1]

Whether the differences between the religious and the non-religious are merely superficial, or whether and in what sense they are fundamental differences; whether the education of home and other circumstances can of themselves account for them, or whether they have deeper roots in particular native endowments; whether yet one is destined to supplant the other and is its necessary lower step or not, are questions that must be passed by in silence in this preliminary paper. This alone we desire to emphasise here: there are, even among individuals of the same community and approximately of the same intelligence and culture, differences sufficient to make of one a person to whom religion is the "all of life" and leave the other absolutely indifferent and impervious to it, however broadly it may be interpreted.

The key of deep, at times even tragic, earnestness to which most of our documents are pitched would force even the ironical sceptic into a reverential mood. It is when the intellectual beliefs on which religious life is supposed to depend are threatened, that the real price ascribed to religion is revealed. Persecution is in part a way of defending one's religious treasures. There is another, less aggressive, way of dealing with doubt-breeding persons and facts, which is perhaps as good a witness as persecution to the inestimable value of religion to certain persons. A lady of our acquaintance to whom we handed a copy of the *Questionnaire* recoiled in evident distress when she had read the first queries. Her confused apologetic refusal implied that she did not dare look her beliefs squarely in the face; only to think of it threw her into a panic.[2] Another person who had refused with startling violence a personal request for answers wrote, of her own accord, about a year later to explain her conduct. Her faith was at the time of the request in a precarious state and she was fighting with the energy of despair to keep God in her Heaven. Her chief means of defense was to reso-

[1] See page 79, Pollock's preface to Clifford's *Lectures and Essays*.

[2] See "The Personifying Passion in Youth," *Monist*, Vol. X., p. 548.

lutely put away from her mind any and every thing threatening her beliefs. My suggested critical examination struck her as the unkindest cut of all.

These pathetic instances of a class of our fellow-men who prefer to bury their heads in the sand rather than permit the hard facts to rob their universe of its "soul of loveliness," suggest valuable reflexions on the relation of belief to desire.

Of all the impressions which arise from a rapid reading of the documents before us, the most constant and the one of greatest philosophical import concerns the religious impulse. The end of religion is not the worship of God as some like to put it. He is frequently not even present to the mind of our correspondents during the moments they call religious, and, when present, He is not usually worshipped. No, if we are to judge by our records, it would seem that the God who rises up before the Protestant Anglo-Saxon in his religious moods does not ordinarily throw him on his knees. That stage appears now transcended. God has remained for him the bestower of the things he wants, but the belief that adoration is an effective means of obtaining satisfaction has been to a very large extent forgotten. Could this be the result of experience? However that may be, the fact is that when God, conjured up by his needs, appears before him, his hands stretch forth in request for power or mercy, not in adoration. And, preposterous as it may seem, it is yet true that he cares very little who God is, or even whether He is at all. But *he uses Him*, instinctively, from habit if not from a rational conviction in His existence, for the satisfaction of his better desires, and this he does ordinarily with the directness and the bluntness of the aggressive child of a domineering century, well-nigh stranger to the emotions of fear, of awe, and of reverence. The truth of the matter may be put this way: *God is not known, He is not understood; He is used*—used a good deal and with an admirable disregard of logical consistency, sometimes as meat purveyor, sometimes as moral support, sometimes as friend, sometimes as an object of love. If He proves himself useful, His right to remain in the service of man is thereby vindicated. The religious con-

sciousness asks for no more than that, it does not embarrass itself with further questions: does God really exist? how does He exist? what is He? etc., are to it as so many irrelevant questions, or, if one prefers to turn the matter otherwise, they are questions which for the time being transform the religious into a philosophic consciousness. Not God but life, more life, a larger, richer, more satisfying life, is in last analysis the end of religion. The love of life at any and every level of development, or, to use another phraseology, the instinct for preservation and increase, is the religious impulse. It would appear, then, that there is at bottom no specifically "religious" impulse; the preservation and increase of life is the moving impulse as well of religious as of secular activity. The point of difference between religious and non-religious life would, therefore, have to be sought for elsewhere than in the impulse and the goal.

How could men have come to think that "the vital element in all religions is the conviction that the existence of the world, with all it contains and all which surrounds it, is a mystery ever pressing for interpretation"?[1] On the contrary, the mystery of the world is resolutely thrust aside by consciousness in so far as it is, and as long as it remains, religious. Religious consciousness as such *refuses* to deal with intellectual problems; if they are forced upon it, it refuses to see them; it will not, if it can, make religious life wait upon rational solutions, but instead it adopts "working hypotheses" and leaves philosophy to unravel the endless puzzles.

This is one of the points which receive the general support of our investigation. The pious soul may, and often does, leave its supplicating attitude to turn, for a while, to philosophy, but it then ceases to be religious and becomes philosophic. For a moment it yearns, it desires, it supplicates, it wills; for another moment it is critical and asks whys and wherefores,—then religious, now philosophic, in as close succession as you please. In the twinkling of an eye it passes from the one to the other attitude; they alternate

[1] H. Spencer in *First Principles*. See for a summary and criticism of his conception of religion, the Appendix to my paper "Introduction to the Psychology of Religion," *The Monist*, Vol. IX., p. 217 ff.

but they cannot coexist. They differ just as much and in the same way as desiring differs from thinking, or willing from reasoning. Considered merely from its intellectual side, the religious attitude postulates, the other inquires. Or, if it be argued that desire lurks at the origin of both activities, the distinction may then be expressed thus: the religious consciousness wants *to be*, the philosophic consciousness wants *to know*. The result of this twofold, interwoven activity is, on the one hand, the creation of religious, on the other, the establishment of philosophic, systems. Both are normal and necessary functions; we are so made that we cannot help passing incessantly from the one to the other, not even the least philosophically minded person among us; but this is not an argument for refusing to admit their fundamental difference. Do we not incessantly pass from desire to reflexion and from thought to action, and are not these two classes of activities essentially different?

The faulty conception of religion entertained by the intellectualistic school is the result of a failure to clearly separate religion from philosophy.[1] And here the efforts of our correspondents to differentiate religious from secular thoughts and feelings is highly instructive. They find the *differentiæ* in the fact that religious thoughts and feelings lead, or refer to *action according to the highest desires*—actions which would therefore satisfy the highest needs.

But we are anticipating; these and other considerations touching the religious impulse and the religious motive will find a more legitimate place after the detailed examination of the evidence.

The differentiation we have been making, if clearly and firmly grasped, becomes a powerful solvent for several of the problems of the philosophy of religion.

JAMES H. LEUBA.

BRYN MAWR COLLEGE.

---

[1] See the author's criticism of the intellectualistic definitions of religion, in *The Monist*, Vol. XI., pp. 202–211.

THE AUTHENTICITY OF THE TAO TEH KING.

SOME time ago when venturing on the work of translating Lao-Tze's Tao Teh King,[1] I was astonished at the general agreement as to its genuineness, and quoted Professor Legge who says:

"I do not know of any other book of so ancient a date as the Tao Teh King of which the authenticity of the origin and the genuineness of the text can claim to be so well substantiated."

At that time I was not aware of the fact that Prof. Herbert A. Giles, one of the best Chinese scholars now living, had made as vigorous an onslaught on the belief in the genuineness of the Tao Teh King as the memorable Tübingen school had made on the historical character of the Gospels.

I am sorry for this oversight, for I should not have failed to mention it in the preface to my translation and should at the same time have utilised Professor Giles's critical remarks on several obscure passages in the Tao Teh King. The article appeared as far back as 1886, in the *China Review*, published at Hongkong (pp.

---

[1] For readers not acquainted with the Chinese language and literature I have to state that no definite system of transcribing Chinese words has as yet been generally agreed upon. Though the abolition of this anarchical state is a consummation devoutly to be wished, it seems all but impossible, were it alone for the reason that the Chinese pronunciation itself is by no means uniform. Thus the word 經 (i. e., a classical or canonical book) is pronounced in the Peking dialect *ching*, and in Canton *king*. Further, 子 (philosopher) is sometimes transcribed *Tzu*, sometimes *Tze*, sometimes *Tzö*, sometimes *Tz'*, all of which are intended for the same sound, an abruptly pronounced short *u* as in "but." For the sake of leaving quotations in their original form, it was impossible to be strictly consistent, but the thoughtful reader will find no difficulty in identifying the proper words and names.

231–280), and is very little referred to by sinologists and still less advertised by the publishers. Only of late, since the learned author came more prominently before the public, have his views on Lao-Tze been mentioned more frequently. Professor Legge, whose translation of the Tao Teh King in the *Sacred Books of the East* appeared in 1891, does not take the slightest notice of Professor Giles; neither does Victor von Strauss, nor any other of the later translators. The Rev. Dr. P. J. Maclagan, whose translation appeared about two years ago in the *China Review*, ignores Professor Giles's attack on the authenticity of the Tao Teh King.[1] Mr. T. W. Kingsmill's translation alone is based upon Professor Giles's theory. These facts are not quoted to extenuate but merely to explain my oversight. The main question, however, remains, whether or not Professor Giles is justified in his assumption when he says:

"The work in question is beyond all doubt a forgery. It contains indeed much that Lao-Tzu did say, but more that he did not. What he did say, as found therein, has been mostly mistranslated. The meaning of what he did not say, if meaning there be, may be safely relegated to the category of things unknown."

Professor Giles restates his position most forcibly in his recent book, *A History of Chinese Literature*, and adds:

"A dwindling minority still believes that we possess that book in the well-known Tao Teh King" (p. 57).

In a private letter to the author of this article Professor Giles formulates his view in a somewhat milder form, making clear the main point of his contention, saying:

"The work we possess does contain many of Lao-Tzu's actual utterances. I only contend that these were handed down by tradition to such writers as Chuang-Tzu, at whose date no 'book' was in existence."

Professor Giles is a great authority in matters sinological, and I confess from the start that my knowledge of Chinese literature is necessarily limited and cannot compare with the mass of material which he has at his command. Accordingly I approached the sub-

[1] Dr. Maclagan's translation is published in Vol. XXIII. of the *China Review*. Mr. T. W. Kingsmill's translation appears in Vol. XXIV., Nos. 3 and 4.

ject with the preconceived idea that I should have to recast my views of the Tao Teh King, and I gave a very careful perusal to the mooted article on "The Remains of Lao-Tzu"; but after a rigorous consideration of all arguments offered against the authenticity of the book, I have come to the conclusion that—barring corruptions of the text and additions that have slipped in through the carelessness of copyists—the bulk of the book must after all be regarded as genuine.

The question is sufficiently important to deserve further investigation. It acquires an additional interest by affording a parallel to the history of the New Testament criticism, which (as it appears at present) at the outset overshot the mark and put the age of the Gospels much too late. In the same way the first critical scholars of the Old Testament relegated the bulk of the Hebrew books, the subjects of their composition as well as their authenticity to the realm of fable. We have learned now that, although the final redaction of the several biblical books may be late, the bulk of their contents is genuine and ancient, establishing the fact that tradition is much more reliable than has commonly been assumed. There is a strong conservatism in the early productions of man's literary aspirations, the tenaciousness of which can hardly be appreciated by modern writers. This conviction has again been brought home to me by a reconsideration of the authenticity of Lao-Tze's Tao Teh King.[1]

---

[1] The present state of New Testament criticism, most concisely summed up in the *Encyclopædia Britannica*, *s. v.* "Gospels," and quite exhaustively and authoritatively treated in Prof. H. J. Holtzmann's works on the New Testament, his *Handcommentar*, and his *Lehrbuch der N. T. Theol.* (2 vols.) takes a very decided stand upon the historical reliability of the main facts told in the Gospels. It is assumed that Mark, Matthew, and Luke have drawn from an original Gospel, now lost, of which Mark is the most faithful and oldest reproduction. The words in common to the three synoptic Gospels would fairly represent this primitive source, which is commonly called by German scholars *Ur-Markus*, i. e., original Mark. Further, the spade of excavators has revealed to us that though the Old Testament may have been compiled at a late date, it nevertheless contains traditions which are older than the most confident assertions of the old-fashioned orthodox theology dared to believe. In fact, some of them being older than the date of Moses, the venerable hoariness of the Old Testament legends, while superseding the preposterous assumptions of the first critics, is of little avail for propping up

But let us investigate Professor Giles's arguments. They are partly negative, partly positive. The former are based on the fact that Confucius, Tso-ch'iu Ming, and Mencius never alluded either to Lao-Tze or to his book. The argument proves nothing. Nor is the statement as it stands quite correct. There is an allusion, not to Lao-Tze's Tao Teh King, but to his doctrine of requiting hatred with goodness. Lao-Tze's name is no more mentioned in the mooted passage than is that of Confucius in the various references to Confucian doctrines in the Tao Teh King.

The passage occurs in the *Lun Yü* and reads as follows:

或曰 報怨以德何如子曰以 直報怨 何以報德以直報怨以德報德

"Some one said, 'Requite hatred with goodness,' what do you think?"

"The sage replied: 'If with goodness hatred be requited, how then should goodness be requited? [I say:] With justice [viz., just retaliation] requite hatred, and goodness with goodness.'"

Confucius did not grasp the significance of Lao-Tze's ethics, and his reluctance in mentioning the name of his great rival was as natural as it was reciprocated.

We might as well say that the literary work of Confucius was a myth, because Lao-Tze, who may be assumed to have written the Tao Teh King at a highly advanced age, does not mention his famous rival; or, to use a more modern simile, that Darwin's book on *The Descent of Man* must have been a product of the latter part of the nineteenth century, because neither he nor his book had been mentioned by any of the divines of his time in their published sermons or any other of their writings. The negative arguments of Professor Giles are offset by the fact that Lao-Tze is mentioned by Lieh Yü-K'ow, commonly called Lieh-Tze, who lived in the fifth century B. C., by Chuang Chou, commonly called Chuang-Tze, who lived in the fourth century B. C., by Han Fei Tze,[1] either of the fourth or third century B. C., and in addition by Liu Ngan,

---

the antiquated dogmatical conception of the Bible. It proves too much; but if it proves anything, it proves the tenacity of religious tradition. We, the children of an unsettled age, can scarcely form an adequate opinion as to the extraordinary conservatism of primitive mankind.

[1] Although Han Fei Tze's philosophy was "tinctured by the quietist doctrines of Lao Tze," he can scarcely be said to belong to the Taoist school; while Hsün

king of Hwai Nan, a grandson of the founder of the Han dynasty, commonly known as Huai Nan Tze of the second century. All these ancient authors indulge in literal or almost literal quotations from Lao-Tze, whom they venerate as a master of highest authority. Professor Legge[1] says:

"To show how numerous the quotations by Han Fei and Liû An[2] are, let it be borne in mind that the Tao Teh King has come down to us as divided into eighty-one short chapters; and that the whole of it is shorter than the shortest of our Gospels. Of the eighty-one chapters, either the whole or portions of seventy-one are found in those two writers. There are other authors not so decidedly Taoistic, in whom we find quotations from the little book. These quotations are in general wonderfully correct. Various readings indeed there are; but if we were sure that the writers did trust to memory, their differences would only prove that copies of the text had been multiplied from the very first."

Taoism had been the religion of China since time immemorial, and Lao-Tze's Taoism came into great prominence under the Han dynasty, which began to rule in 206 B. C. The Emperor Ching who ruled 156–143 B. C. issued a decree by which Lao-Tze's book on *tao* and *teh* was raised to the rank of canonical authority; hence its name Tao Teh King.

The quotations from Lao-Tze, the genuineness of which is freely conceded by Professor Giles, date back to the fourth, third, and second century B. C. Accordingly the sentiments are unequivocally antique Chinese thoughts, which fact is sufficient to insure forever the importance of the Tao Teh King as a document of the religious evolution of mankind, rendering the obvious parallelism to Buddhist and Christian sentiments the more remarkable as its growth must be acknowledged to have taken place in perfect independence. Now it would seem that the more frequent and the more scattered these quotations are, the more assured would be the authenticity of the Tao Teh King. Considering the literary

---

Tze, whom Professor Giles also classes among the Taoists (*China Review*, p. 231), if he belongs to any school, must be regarded as a Confucianist. (See Mayer's *Chinese Reader's Manual*, No. 149 and 649.)

[1] *Sacred Books of the East*, Vol. XXXIX., p. 6, Introduction to his translation of the Tao Teh King.

[2] Viz., Liu Ngan.

laxity of the ancient Chinese authors, it is remarkable how correct and exact the numerous quotations from Lao-Tze are! Their close agreement not only with the present text of the Tao Teh King but also with one another could not very well be explained from oral tradition.

Take for instance chapter 58, which contains no specially noteworthy sayings of Lao-Tze. The first and second sentences are quoted by Huai Nan Tze; the third one (though modified) by Han Fei Tze; farther down there are characters cited by Chuang Tze and Han Fei Tze. Professor Giles sums up the result by saying:

"With the exception of a few inserted characters, the chapter can be entirely constructed out of quotations to be found in the various writers already cited."

This is a strong argument in favor of the authenticity of the Tao Teh King, but Professor Giles seems to think, on the contrary, that these quotations are the material from which some literary imposter has compiled the present Tao Teh King. Now, I venture to say that, from Professor Giles's standpoint, and assuming these quotations to be genuine, the *pia fraus* of this Taoist "artificer" should be called rather a reconstruction than a forgery, and we ought to confess that the work was cleverly done. However, if these quotations are fictitious, we must be astonished at their close agreement, and we would have no standard at all by which we could decide what is genuine and what not. In fact, we might as well declare that Lao-Tze himself is an invention of Han Fei Tze, Chuang-Tze, or perhaps Hwai Nan Tze.

Such indeed is the position of one who follows in the wake of Professor Giles.

Why not advance one step farther and declare the whole ancient literature of China a modern forgery fabricated for the purpose of palliating the atrocities of the Boxers by imputing to the Chinese the semblance of an ancient civilisation and a sublime code of morals?

Professor Giles's position is out-Giles-ed by Mr. Thos. W. Kingsmill in the *China Review* (Vol. XXIII., No. 5), where the latter takes occasion to castigate Dr. Maclagan for translating the Tao Teh King without referring to Professor Giles's essay on the

Remains of Lao-Tze. Mr. Kingsmill caps the climax by denying the existence of Lao-Tze, and his argument is plausible enough for any one who knows but little of early Chinese literature. He says:

"Hwai Nan Tsze and the other philosophers of his school were in the habit of quoting certain saws of unknown origin, premising them with the phrase 老子曰 'the old masters said.' In the prevailing fusion 耆子 grew into a personality, the Philosopher Lao. So an individual had to be found, and as in the other case, the new generation of writers, under the stimulating rewards of the new regime, were nothing loth. We see the process going on in Sze-Ma-Ts'ien's time. The historian tells us indeed of a Philosopher Lao but is very careful to precede the statement with the very doubtful phrase 或曰 *'huo yüeh*, 'it is said,' where, however, the character *'huo* implies a very much stronger sense of disbelief than the English expression. So in a succeeding generation, all that was necessary to do was to gather together all the sayings heralded by the remark 'the old masters said,' jumble them together without rhyme or reason, and add a few inane remarks of the compiler's own, and issue them to the world as the genuine remains of the philosopher Lao-Tsze.

"Such is the origin of that paltry juggle, known to succeeding ages of uncritical writers as the Tao Teh King."

The greater part of the ancient literature of China is condemned by Mr. Kingsmill as forgeries. Here is Mr. Kingsmill's view in his own words:

"China had been gradually trying to evolve, out of her primitive writing, something that could be looked upon as literature and the stimulus came from India, and is very apparent in the burst of philosophic works which marked the period, Chwang-Tsze, as we have him now, Hwai Nan Tze, Sun Tze, etc. To this period we owe the recension, partly from oral tradition, and partly from the remains of the old tablets, which were unintelligible without the oral key of the old records and poetry, and we are sorry to say bribed by the rewards of a vast amount of barefaced forgeries.

"Many of these works, it is true, contain valuable fragments of the old traditions, though largely padded and diluted with more modern accretions. Of these the *Yih King* is a good specimen. Certain of the books in the collection known as the *Shú King* are of this nature. . . . The Tao Teh King partakes also of the same nature. Professor Giles (*l. c.*) has pointed out seriatim the sources of its inspirations, which are to be found in the works of Hwai Nan Tsze and others. There is however this distinction; the authors of the recensions did not seek to deceive, their only intention was to make the text so far as they could intelligible; literature was in its infancy and quotation marks and dependent sentences and the devices of later writers had not been invented. The forger, for forger he must be

called, of the Tao Teh King had no such excuse. It was profitable in those days to unearth any fragment of the old literature; so he plagiarised Chwang Tze and Hwai Nan Tsze and added an ignorant padding, both the patter of the juggler, to conceal the indifferent joinings, and uttered the composition to a credulous age as the genuine production of Lao-Tze, (this time with a capital initial).

"I have used this strong language in no carping nor ungenerous spirit; but believing, as I do, that we have not learned all that is possible from the study of ancient Chinese, it has been a source of regret that those who have the time and the opportunity to search for themselves, have been content to follow in the old tracks."

Mr. Kingsmill claims that "both the form and the doctrines" of the Tao Teh King are Indian. He identifies "the great Tao" with the Sanskrit *marga*, the eightfold noble Path; the *wu wei* 無爲 or not-doing with Nirvâna; 功成 *kung ch'eng*, i. e., merit completed, with Karma; and 欲 *yü*, i. e., desire, with *trishna*, thirst.[1] He goes so far as to identify the three *gunas* with *teh* (virtue) as goodness (*sattva*), *yü* (desire) as passion or activity (*rajas*) and 淡 *tan* (paleness) which he transcribes *tam*, and calls it "a word imported for the occasion" (!) with "darkness or inertia (*tamas*). The word 樸 *p'u*, simplicity, in chapter 28 means to him "Bhagavat" (p. 154), and 迷 *mi*, "confusion," in chapter 58 is transcribed "*me*, old *mai*," and declared to be "a transliteration of Indian *mâyâ*, illusion" (p. 190).

All this is partly far-fetched, partly positively untrue. The Taoist's Tao is a world-principle, not as the Buddhist *marga* a moral endeavor. There is no similarity except that one of the meanings of the word Tao happens to be "path." It is used by the Buddhists to translate "path," and by the Christians to translate "word" or *logos*. Lao-Tze's term *wu wei* (not doing) is a rule of conduct while the Buddhist Nirvâna is the transcendent state of bliss attained by the Buddha. In the language of the Buddhist missionaries it takes the place of the Christian heaven. The difference between *kung ch'eng* (merit completed) and the Buddhist

[1] The character *chi*, i. e., "subtle, hidden" on p. 149 first line in Mr. Kingsmill's article is obviously a misprint. It is probably meant for 氣 *ch'i* "breath," or "the primeval life-principle," which latter, however, ought not to be translated by "primeval matter."

Karma is almost tantamount to the contrast between "virtue" and "sin."

The identification of *teh*, *yü*, and *tan* with the three *gunas*, or qualities, viz., good, bad and indifferent is as purely imaginary as that of "simplicity" with "Bhagavat," and possesses not even a semblance of truth. Further, it is difficult to understand how Mr. Kingsmill will prove that *tan* was pronounced *tam*, that the word was imported from India, or even that it ever had the meaning "darkness or inertia," let alone badness in the sense of *tamas*, as used in India.

Although the quotations of ancient Chinese authors from the Tao Teh King date back to the fourth, third, and second century, Mr. Kingsmill feels compelled by his theory not to allow its composition to have taken place before the intercourse between China and India was established under the Han dynasty, which means the first century of the Christian era.[1]

Mr. Kingsmill's "literal translation" of the Tao Teh King seems to have been made from an edition with many variants which differ considerably from all the traditional texts at my command. In addition he alters the text whenever it pleases him.[2] It reads sometimes as if it were written in the grim humor of Mark Twain when translating a translation of one of his funny stories back into English. No wonder that Mr. Kingsmill calls the Tao Teh King a "paltry juggle."

Mr. Kingsmill allows that the book contains in the "rhyming proverbs enough survivals of some older period," but the quotations which breathe the Buddhist-Christian spirit, such sayings as "requite hatred with goodness" are unequivocally ancient and date back centuries before there was any intercourse with India.

The Han dynasty favored Taoism from the start (viz., 208 B. C.), in grateful remembrance of the aid which Liu Pang, its

---

[1] The Han dynasty reigned from 201 B. C. till 190 A. D., and the first Buddhist missionaries reached China in the eighth year of Ming Tî, corresponding to 66 A. D.

[2] For instance, in Chapter 6 he reads the "spirit of desire" instead of "the spirit of the valley."

founder, had received from Chang Liang the Taoist. Accordingly there is not the slightest foundation in Mr. Kingsmill's assertion (p. 195–196) that "to attempt an open contest" with the Confucianist scholars of those days "was as hopeless as to question the dictates of the Church in the heydays of the Holy Office," and that "the only hope of success lay in an appeal to the writings of antiquity" which was accomplished by the forgery of the Tao Teh King.

Although I am willing enough to accept all reasonable propositions of any advanced school of Chinese Higher Criticism, I am not sufficiently convinced either by Professor Giles or by Mr. Kingsmill to leave "the old tracks." I see too many objections and contradictions in their views.

It seems to me that if the Tao Teh King were the pious fraud of a later Taoist, it would contain at least some of the aberrations of Taoism and above all a demonstration of the claim that the great master believed in the possibility of preparing an elixir of life, which was the fad of almost all later disciples of Lao-Tze. All religious forgeries have a dogmatic tendency or some other practical purpose, and the absence of any dogmatic tendency in the Tao Teh King renders the assumptions of both Professor Giles and Mr. Kingsmill very improbable.

Mr. Kingsmill goes so far in his assertion that his views need not be taken seriously, while Professor Giles's more moderate position deserves attention, were it merely on account of his high standing as a sinologist.

Professor Giles grants that the quotations made by Huai Nan Tze and Han Fei Tze are genuine and treats these authors as the only reliable source of our knowledge of Lao-Tze. He says:

"Han Fei Tzu, of the third century B. C., quotes many sayings of Lao Tzu, which are found in the Tao Teh King. That is, they are meant for the same; but the wording is different. Many of Han Fei Tzu's quotations, however, make

---

[1] Deuteronomy, perhaps the boldest and cleverest forgery in the history of religion, was composed for the purpose of establishing the monopoly of the temple of Jerusalem, while its dogmatic tendency is to establish the rigid monotheism of the prophets.

sense where the corresponding sentences in the Tao Teh King make nonsense. Han Fei Tzu also gives quotations which are nowhere to be found in the Tao Teh King. Twice he mentions 'a book.' Without descending to special pleading, this may well have been some book dealing with the teachings of Lao Tzu. . . .

"Of Huai Nan Tzu, who lived in the second century B. C., the same may be said, except that he never mentions a book."

Lao-Tze's Tao Teh King begins:

道可道非常道

"The way which can be walked is not the eternal way."

This sentence is quoted by both Han Fei Tze and Huai Nan Tze, but the former with a slight variant, adding the untranslatable particle 之 *chi* after *tao*, and the latter rendering the quotation more complete by adding the next following sentence, "The name which can be uttered is not the eternal name;" but both introduce the quotation by 老子曰 *Lao Tze yueh*, "Lao Tze says," not "Lao Tze writes," or "as is written in Lao Tze's book."

Professor Giles is very apodictic. We might as well say that many sayings which have a deep sense in the Tao Teh King are purely trivial when read in the sense in which they are quoted by Han Fei Tze and Huai Nan Tze. The editor of the *China Review* adds a comment to Professor Giles's article in which he says:

"Mr. Giles will pardon us for expressing our conviction that, in spite of all he has brought forward, there is still room to believe that Lao Tzu, or the set of men typically represented by the term Lao Tzu, differed from men of the Han Fei Tzu type as much as heaven differs from earth."

In addition to the quotations which are contained in our present version of the Tao Teh King, there are other quotations which are not found in it. Mr. Giles makes much of it. He says:

"If it [viz., 'the book' mentioned by Han Fei Tzu] must be the Tao Tê Ching at all costs, then we are upon the horn of a dilemma,—it contained sayings of Lao Tzu which are not in the modern Tao Tê Ching."

Professor Giles assumes that some genuine sayings of Lao-Tze were preserved by oral tradition which in itself is by no means improbable, although the reliability of such a mode of tradition could be admitted only for an illiterate age and must in a literary age fairly be regarded as doubtful. But considering the prominence

of Lao-Tze, we may very well assume that in addition to his genuine literary remains, there ought to have been in vogue a number of apocryphal sayings of his. We know that in the history of Christianity, in addition to the canonical and apocryphal gospels, there existed the so-called ἄγραφα, the unwritten words of the Lord which were frequently quoted by the church-fathers; but no New Testament critic has ever thought of proving the Gospels to be a forgery by a reference to unverifiable quotations of the sayings of Christ. The apocryphal and agraphal sayings of Lao-Tze are by no means as numerous as those of Jesus, and if we are not misinformed, they are less frequent than a reader of Professor Giles's article is apt to think.

In reply to another argument of Professor Giles we may say that there are words in the New Testament which cannot be found in Greek dictionaries (for instance the expression ἐπιούσιος), but the fact cannot be brought forward against the authenticity of the Gospels. Thus it is quite possible that the compilers of 說文 *Shuo Wên* believed they had embodied all Chinese words in use at or about the time of the Christian era and might after all have omitted a character that belonged to the sixth century B. C.

Professor Giles says:

"Other sayings which occur in the Tao Tê Ching as utterances of Lao Tzu, are stated by Chuang Tzu to have fallen from the lips of the Yellow Emperor (B. C. 2697)."

Obviously Professor Giles here refers to such sentences as "one who knows does not talk; one who talks does not know" (Chap. 56), and the curious quotation of the sixth chapter of our Tao Teh King which (as says the commentator T'u T'au Kien) Lieh Tze attributes to the mythical Huang Tî, the Yellow Emperor.[1] But considering the fact that the Tao Teh King is full of quotations, why could not Lao-Tze have quoted this passage from a book which popular tradition attributed to Huang Tî? Professor Giles's argument has no force.

Further, Professor Giles contends that such a book as the

[1] Also to chapter 38, the text of which, however, is doubtful

modern Tao Teh King was never written by Lao-Tze, and that it did not exist at the time of these writers. He grants that Han Fei Tze twice mentioned a book of some kind, but "Chuang Tzu, the greatest Taoist writer of all ages, who flourished in the fourth century B. C., never alludes to any book from the hand of Lao Tzu."

By the same logic we might easily prove that the Epistles of Paul or the original Mark cannot have existed in the first century of the Christian era, simply because some of those authors who quote from these writings do not expressly mention the fact that their quotations were taken from epistles or refer to them in vague and general terms.

Sze-Ma Ch'ien, the Chinese Herodotus, assuredly no mean authority, who lived from about 163–85 B. C., mentions the book as saying that it had two parts, discussed the *tao* and the *teh*, and consisted of five thousand and some words—statements which are exact as can be.

Professor Giles objects to the testimony of Sze-Ma Ch'ien. He says:

"In his brief memoir of Lao Tzu he mentions 'a book in 5,000 and odd characters'; but he mentions it in such a way as to make it clear beyond all doubt that he himself had never set eyes upon the work, to say nothing of a somewhat supernatural hue with which the rest of his account is tinged."

Here is the Sze-Ma Ch'ien's account of Lao-Tze's life:

"Lao-Tze was born in the hamlet Ch'ü-Jhren, Li-Hsiang, K'u-Hien, of Ch'u. His family was the Li gentry. His proper name was Er, his posthumous title Po-Yang, his appellation Tan. In Cho he was in charge of the secret archives as state historian.

"Confucius went to Cho in order to consult Lao-Tze on the rules of propriety.

"[When Confucius, speaking of propriety, praised reverence for the sages of antiquity], Lao-Tze said: 'The men of whom you speak, Sir, have, if you please, together with their bones mouldered. Their words alone are still extant. If a noble man finds his time he rises, but if he does not find his time he drifts like a roving-plant and wanders about. I observe that the wise merchant hides his treasures deeply as if he were poor. The noble man of perfect virtue assumes an attitude as though he were stupid. Let go, Sir, your proud airs, your many wishes, your affectation and exaggerated plans. All this is of no use to you, Sir. That is what I have to communicate to you, and that is all.'

"Confucius left. [Unable to understand the basic idea of Lao-Tze's ethics].

he addressed his disciples, saying: 'I know that the birds can fly, I know that the fishes can swim, I know that the wild animals can run. For the running, one could make nooses; for the swimming, one could make nets; for the flying, one could make arrows. As to the dragon I cannot know how he can bestride wind and clouds when he heavenwards rises. To-day I saw Lao-Tze. Is he perhaps like the dragon?'

"Lao-Tze practised reason and virtue. His doctrine aims in self-concealment and namelessness.

"Lao-Tze resided in Cho most of his life. When he foresaw the decay of Cho, he departed and came to the frontier. The custom-house officer Yin-Hi said: Sir, since it pleases you to retire, I request you for my sake to write a book.'

"Thereupon Lao-Tze wrote a book of two parts consisting of five thousand and odd words, in which he discussed the concepts of reason and virtue. Then he departed.

"No one knows where he died."

Sze-Ma Ch'ien is an historian, author of the *Shi Ki*, i. e., Historical Records, the first Chinese book that can truly be called History. It may be granted there is scope for doubt whether the interview of Lao-Tze and Confucius is historical; in itself it is by no means impossible. The account which Chuang-Tze gives of Confucius's visit to Lao-Tze at Cho is commonly regarded as a romance, but Sze-Ma Ch'ien's report is too sober to treat it in the same way. I am at a loss how Professor Giles can say that Sze-Ma Ch'ien mentions Lao-Tze's book on the Tao and the Teh "in such a way as to make it clear beyond all doubt that he himself had never set eyes upon the work, to say nothing of a somewhat supernatural hue with which the rest of his account is tinged." If there is a supernatural hue in Sze-Ma Ch'ien's account of Lao-Tze's life, I have been unable to discover it.

The account of the interview between Lao-Tze and Confucius gains in credibility if we consider the fact that Sze-Ma Ch'ien was a Confucian and not a follower of Lao-Tze.[1]

There is one difficulty only in Sze-Ma Ch'ien's account. He is unaware of the fact that about half a century before Emperor Ching had raised the dignity of Lao-Tze's book to that of a *King*, i. e., a

[1] Stated by Mr. Suzuki, in his article "Lao-Tze and Professor Giles" in the present number of *The Monist*, p. 612.

canonical writing. But are we justified in assuming that Sze-Ma Ch'ien, although a scholar and a historian, was omniscient? After all he was not a historian in the modern connotation of the word, but the path-finder of historiography who had to battle with all the difficulties of primitive conditions and the limitations of his age. In my opinion, it lies quite within the scope of probability that the copy of Lao-Tze's book in Sze-Ma Ch'ien's possession had been written before the issue of the decree of its canonisation or at least before it became generally known. We must remember that the art of printing had not as yet been invented and books were precious and rare.

Professor Giles makes up for the lack of force of his argument by stating his position most forcibly. He says:

"Had this book been in existence at the date at which Ssu-ma Ch'ien wrote his immortal history, it is difficult to believe that such a man would not have made some effort to see it."

The same argument which is merely an assertion vigorously and positively stated, is repeated further down:

"Ssu-ma Ch'ien, the historian, who wrote about a century before Christ, mentions a work attributed to Lao Tzu. He never saw it himself; but we may rest assûred that he would have done so had it been in existence at the time at which he lived."

It seems to me that a man like Sze-Ma Ch'ien, being apparently greatly interested in the philosophy of Lao-Tze, would indeed "have made some efforts to see it"; and if he had not been able to find it, would surely have expressed regret about it. The statement which tallies exactly with the size, contents, and title of the book in our possession now, implies plainly that he knew it. The book in our possession contains passages quoted by Han Fei Tze, Chuang Tze, and other authors. Yet says Professor Giles, at Chuang Tze's "date 'no book' was in existence."

With all deference to Professor Giles's superior sinological scholarship, I fail to be convinced by his arguments; and unless he advances other and stronger reasons I shall still continue *in petto* to hold the traditional view that the Tao Teh King which

we have now is substantially the book which, Sze-Ma Ch'ien says, Lao-Tze has written.

Professor Giles's attitude on the question of the authenticity of Lao-Tze is perhaps characteristic of his natural inclination (which in many respects is very commendable) never to be lukewarm, to be either hot or cold, and to express himself vigorously. Even Mr. George T. Candlin in his review, while singing the praises of the great sinologist exhausts the whole gamut of eulogy, says: "that he may be oracular, dogmatic, pugnacious to a degree, scant of courtesy sometimes to opponents, but never dull." I agree with Mr. Candlin's praise of Professor Giles, especially also with the comment as to his lack of dullness which sometimes implies that he exaggerates and carries his contention too far.[1]

A negative view is nowadays so much credited with being the more critical and more scientific conception that it almost seems as though an affirmative position ought to be based upon some interest which its holder has at stake. But I have no axe to grind. I am no Taoist priest and am utterly indifferent as to whether or not the authenticity of the Taoist canon can be upheld. My interest in the Tao Teh King is for the sake of the ideas it contains, and I do not care whether Lao-Tze, the old philosopher Er of the Li family, composed it, embodying in his collection of aphorisms older proverbs and sayings, or whether it be the product of an oral tra-

[1] Though Professor Giles is acknowledged to be one of the foremost sinologues in the world, his dictionary in spite of its great preferences over other dictionaries is not without flaws. The *China Review* presented its readers in every consecutive number with emendations by E. H. Parker and E. von Zach. The former takes a special delight in carping at the prominent lexicographer, prefacing his comments in a Boxer-like cruel humor as follows (*China Review*, XXXIII., No. 1, p. 48):

"Giles's Dictionary affords endless sport to the merry, and we may look forward to many a long year of sparring yet. I find it quite a mental relief, after the serious studies of the day, to indulge in a little Giles-baiting. It is all the more agreeable, in that I know it can never do any harm: in pachydermatousness Mr. Giles would give points to a hippopotamus, if not indeed to a rhinoceros; and there is not more danger of my fine shafts wounding his grizzly hide than there is of a *dum-dum* bullet piercing the latter pachyderm's skin."

Professor Giles also seems bent on making his dictionary a means for propagating his favorite doctrines. He actually inserts his views concerning the Tao Teh King under the word *Tao*.

dition, composed after the time of the burning of the books (212 B. C.), although it would seem strange that, as was actually the case, several copies should have been rediscovered. On the assumption that the book is a forgery one would think that merely one copy should have been found.

After all Professor Giles concedes that most of the pithy sayings which render the Tao Teh King so attractive are genuine utterances of Lao-Tze, and the main thing, it seems to me, is the contents of the book and its spirit, not the authenticity of the edition that now lies before us. At any rate, the antiquity of these remarkable utterances, even if their compilation in book-form were of a later date, is unequivocally assured.

It is true that the Tao Teh King in its present shape is not a logically arranged presentation of a doctrine but a jumble of incoherent remarks, a collection of aphorisms. But this neglected exterior of stylistic composition harbors gems of deepest wisdom and enables us to discern back of it a thinker of deep philosophical insight. It seems to me that if the book were the product of an imposter, the result would have been very different: the make-up would have been elegant, the style correct and clear, but the contents, poor in spirit, sectarian in tendency, and paltry in its contentions. Tradition tells us that Lao-Tze wrote his book as an old man, broken down with age and filled with gloomy anticipations as to the future of his country. He had retired from the field of his activity in the state of Cho, and was about to leave the country in a state of dejection. Accordingly Lao-Tze can no longer have been himself; he must have been like a noble ruin still reflecting the grandeur of former days.

If the Tao Teh King is a fraud, its compiler must have been an unrivalled psychologist, for the book before us bears all the vestiges of the faults that old age is heir to. The author cares not for logical connexion, but he brings out plainly the burden of his message to the world. He repeats himself, he quotes proverbs and wise saws as they happen to suggest themselves, and thus, while the composition is loose and careless, the whole is after all impressive.

Supposing the book to be genuine and the tradition about its being written at the very end of its author's career true, we can understand Lao-Tze's indignation at the ostentatious self-sufficiency of Chinese ceremonialism which seems to have been rampant from time immemorial even before Confucius made himself its apostle. It is natural for a man like Lao-Tze not to mention Confucius by name; in fact, he never mentions names, although his book is full of quotations. But he vents his feelings in unmistakable allusions about ceremonialism and the external show of virtue. It is scarcely probable that an imposter would have been so cunning as to speak in mere allusions. Imposters, as a rule, show unmistakably the purpose for which a book is forged. They want to use the authority of their master for an endorsement of their favorite views; and a pious Taoist would not have allowed an opportunity to slip without plainly denouncing Confucianism. Should we assume that he was artful enough to imitate a senile disregard of diction and oracular allusions to the dangers of growing Confucianism? We deem it highly improbable.

If the Tao Teh King had been compiled in the way Professor Giles suggests, from the authors who quoted sayings of Lao-Tze, the artificer of the book would certainly have tried to make the book complete and would not have omitted a number of the quotations which were just as accessible to him as the material which he is supposed to have incorporated in the Tao Teh King. On the other hand, it is likely that he would not have inserted quotations from the Yellow Emperor and other sources.

I agree with Professor Giles that the text of the Tao Teh King must be regarded as corrupt or doubtful in many passages, and it seems to me that most of the corruptions arise from the fact that the book was written by an old man under aggravating circumstances. The man who wrote it was great, but when he wrote it he was not in a condition to appear to advantage before literary critics. The agitation of his mind becomes apparent in the lack of logical cohesion, which became the source of doubts and suggestions for commentators and a cause of errors for copyists.

Professor Giles says:

"Truly we may say of every passage in Chinese literature, *Quot homines, tot sententiæ;* and the worst of it is that the outside public becomes daily more convinced that the Chinese is an ambiguous language, which is, as nearly as possible, in diametrical opposition to the truth."

I for one belong to that class of people who believe that the Chinese language offers more opportunities for vagueness than any other language known to me; and I envy Professor Giles the assurance with which he offers his translations as unequivocally correct. If I only could persuade myself to accept them without misgivings!

It is pleasant to deal with people who are outspoken, for they are definite in their opinions, and the directness with which they propound their arguments saves time. It is sometimes difficult to find out what those others mean who, though they have very decided views, neither affirm nor deny, thus leaving their readers in a quandary. Professor Giles, I am happy to say, belongs to the former class, but he might be positive without being severe on those who differ from him.

The Chinese language is a Chinese puzzle, and the Tao Teh King is more so than any other book or classic, except the Yih King. Therefore sinologues have good reason to be charitable with one another.

The slovenliness of Lao-Tze's style was the natural cause of the various text-corruptions which have crept in through careless copyists, but are by no means as numerous or as hopeless as Professor Giles would make us believe. Frequently his lack of patience induces Professor Giles to reject a sentence unnecessarily. For instance, speaking of chapter 8, he says:

"Either Lao Tzu wrote unqualified nonsense, or he did not write that. In the former case, I think we should have heard less about him as one of the great early teachers of humanity."

We translate the chapter, which Professor Giles condemns as unqualified nonsense, as follows:

"Superior goodness resembleth water. Water in goodness benefiteth the ten thousand things, yet it quarreleth not. Because it dwelleth in places which the

multitude of men shun [seeking a position of lowliness], therefore it is near unto the eternal Reason.

"For a dwelling goodness chooses the level. For a heart goodness chooses commotion. When giving, goodness chooses benevolence. In words, goodness chooses faith. In government goodness chooses order. In business goodness chooses ability. In its motion goodness chooses timeliness. It quarreleth not. Therefore it is not rebuked.

Of chapter 11, Professor Giles says:

"This chapter is beneath contempt. It is an illustration of the advantage of that which is non-existent; e. g., of the potentiality of ingress and egress by a window or a door, in consequence of the absence of any resisting medium. It does not bear traces of the master's hand."

Professor Giles does not seem to be familiar with the fact that Western philosophers, too, have been troubled with the problem of form. We cannot comprehend the world from matter and motion alone, from the material of which things consist, but there is another element to be considered which has so little to do with substance of any kind that it evinces its efficiency by an absence of substance, thus justifying the old Eleatic paradox, that the part may be more than the whole. We translate chapter 11 as follows:

"Thirty spokes unite in one nave, and on that which is non-existent [on the hole in the nave] depends the wheel's utility. Clay is moulded into a vessel, and on that which is non-existent [on its hallowness] depends the vessel's utility. By cutting out doors and windows we build a house, and on that which is non-existent [on the empty space] depends the house's utility.

"Therefore, when the existence of things is profitable, it is the non-existent in them which renders them useful."

The most prominent moral maxim of Lao-Tze is expressed in his doctrine of 無爲 *wu wei*, which literally means "non-action," or "not-doing." The context of the many aphoristic sayings of the Tao Teh King makes it plain what Lao-Tze means by saying, "He who makes mars" (see chapters 29 and 64). To make (*wei*) means artful interference and an unnatural assertion of our own unwarranted conceits or pretensions. The "not-doing," accordingly, is the abstinence of all this and a *laissez-faire* of the natural course of things.

Non-action is as important in life, as non-existence in things existing. As by carving out, or by taking away, we can give form to anything, so by doing the not-doing there is nothing that cannot be done. Says Lao-Tze:

無爲而無不爲

"By not-doing there is nothing that cannot be done."

Professor Giles is presumably far from denying this interpretation of Lao-Tze's *wu wei;* at any rate, he quotes Lao-Tze's saying as genuine (chapter 43):

"And so I know that there is advantage in non-action."

This sentence is quoted by Huai Nan Tze as the moral to the following parable:

"Light asked Nothing if it really existed or not. Nothing did not answer, so Light set to work to watch it. All of a sudden he could not see it, or hear it, or touch it. 'Bravo!' cried Light; 'who is equal to that? I can be nothing myself; but I can't not be nothing.'" (*Loc. cit.*, p. 261.)

With all respect for the high opinion which Professor Giles cherishes for Han Fei Tze, saying that his "quotations make sense where the corresponding sentences in the Tao Teh King make nonsense," I must confess that the sense of the sentence, "I can't not be nothing," is too deep for me. It is at best a joke. But conceptions about sense and nonsense differ. Take, for instance, the following sentence—Lao-Tze says:

"The Tao produces oneness; oneness produces duality; duality produces trinity; trinity produces all things."

These ideas possess, in my opinion, in their literal significance good sense. Tao, i. e., the method of thinking, starts with unities: exhibiting dualities in contrasts or combinations, and finally produces trinities by a synthesis of two ideas. All thinking is done in these trinity relations, just as trigonometry calculates everything by measuring triangles. But Professor Giles, discovering in Mr. Balfour's translation a bad mistake in Latin grammar,[1] condemns Lao-Tze's proposition without further ado, saying (*loc. cit.*, p. 260):

[1] He makes the plural of "afflatus," "afflati"!

'The whole passage reminds me of a numerical proverb which I used to hear quoted by my great-grandmother:

One fool makes many,
And so the world do continue."

Chapter 41 contains a series of lines among which we read:

"Those enlightened by tao appear dark,
Those advanced by reason appear retreating."

"The greatest whiteness appears like shame,
The completest virtue appears insufficient."

And further on:

"The largest vessel is not yet completed,
The loudest voice is void of speech."

Obviously Lao-Tze means that the sage is not ostentatious and appears ignorant to the vulgar—an idea expressed repeatedly in the Tao Teh King, that genuine innocence is lacking in the sense of shame, that the largest vessel (the empire or the world) is never complete and the most powerful revelation of truth cannot be exhausted in words. Professor Giles translates one of these sentences as follows:

"He who is truly pure behaves as though he were sullied; He who has virtue in abundance behaves as though it were not enough."

And as to the last line he says:

"The meaning is:

"A great thing takes long to complete,
A great sound is seldom heard."

The meaning is explained by a quotation from Han Fei Tze as follows:

"The king of Ch'u did nothing for the first three years of his reign. His Prime Minister then observed, 'There has been a bird sitting three years quite still, without wings, without flying, and without uttering a sound. How can your Majesty explain that?' 'It was probably letting its wings grow,' replied the king, 'and occupied itself meanwhile in watching the people. When it does fly, it will soar to heaven. When it does cry, there will be consternation among men. Be not afraid. I understand you.' Six months afterwards the king took the reins of government into his own hands, and ruled with unparalleled success."

The meaning of Lao-Tze's sentences is profound, but Han Fei Tze's explanation appears to me too trivial to be helpful.

There are many more of Professor Giles's interpretations of passages quoted in a similar way from Lao-Tze which will scarcely recommend themselves to sinologists, and the arguments offered to prove his views are not convincing.

For instance:

The passage, "there is no sin greater than 欲 *yü*," i. e., desire (chapter 46), is accepted as genuine because quoted by Han Fei Tze; but Professor Giles insists that *yü* must be translated by "ambition," simply because "Han Fei Tzu instances the ambition of certain famous personages and so settles the point." Commenting upon another sentence (of chapter 71) Professor Giles says of Huai Nan Tze, his other great authority:

"He quotes the passage, probably as Lao Tzu uttered it, before the compiler of the Tao Tê King set to work to compress here, to expand there, never for the better but always for the worse, and then to serve up with padding of his own as the work of one of the mightiest teachers of old."

The passage which is commonly interpreted as Lao-Tze's complaints about the Pharisees of Confucianism (chapter 19), viz.:

"Abandon your saintliness,[1] discard your prudence, and the people will gain a hundredfold,"

is interpreted by Professor Giles on the basis of Huai Nan Tze's comments as follows:

"The real truth is that the Confucianists took up arms against a phrase, the exact import of which they misapprehended and were led to regard as an attack upon their own traditions. What Lao Tzu meant to say was that, with less wisdom and knowledge, the world would get on better. For instance, as Huai Nan Tzu explains the sentence, there would be no thieves, inasmuch as successful theft implies considerable mental power.

"The saying occurs in a slightly different form in Chuang Tzu. Some one asked Lao Tzu how the world would go along without government; to which Lao Tzu replied by showing how violence and disorder had always been conspicuous during the reigns even of the wisest emperors, and in spite of carefully-framed

[1] For reasons unknown to me, Professor Giles here, as in other passages, translates "wisdom" for "saintliness."

codes of laws. 'Therefore it has been said, *abandon wisdom and discard knowledge, and the empire will be at peace.*' "

Huai Nan Tze's explanation of Lao-Tze's philosophy, to make people too stupid for criminals, appears to me so trivial, so foolish, and at the same time so immoral, implying an obvious misconception of Lao-Tze's main contentions, that Professor Giles must pardon me for still adhering to the traditional interpretation of the passage.

Chapter 54 concludes with the phrase:

"How in the world do I know that it is so?" and Lao-Tze adds: "By this!"

So far as I know all commentators agree that Lao-Tze means to say "by this my tao (or Reason) which I am preaching to the world. I see no other possible explanation, and thus Mr. Chalmer translates "By this way"; Mr. Balfour, "By this method"; and Professor Giles adds (l. c., p. 267):

"In which case we are left stranded with a 'method' which comes from nothing and leads to nowhere."

This comment may be racy, even witty, but it is not fair.[1]

Professor Giles translates the beginning of chapter 36 quoted by Han Fei Tze in these words:

"If you would contract, you must first expand. If you would weaken, you must first strengthen. If you would take, you must first give."

Must a general indeed first strengthen the enemy before he weakens him? Professor Giles's translation gives no sense and his construction is impossible. My own translation is more literal and comes nearer the truth:

"That which is about to contract has surely been [first] expanded. That which is about to weaken has surely been [first] strengthened. That which is about to fall has surely been [first] raised. That which is about to be despoiled has surely been [first] endowed."

In spite of his dependence upon Han Fei Tze and Huai Nan Tze, Professor Giles does not hesitate to appropriate for Lao-Tze

[1] Professor Giles is opposed to translating *tao* by reason, but it would lead me here too far to point out how groundless his objections are.

such sayings as betray an unusual depth of thought. Thus he says of the famous passage in chapter 49:

"This chapter contains one very remarkable saying which I have no hesitation in attributing to Lao Tzu, although I have so far failed to discover it in any of his disciples' works."

Professor Giles translates the passage as follows:

"To the good I would be good. To the not-good I would also be good, in order to make them good."

In translating this passage, Professor Giles interprets 德 *teh* (virtue) to mean 得 *teh*, "to obtain," saying that this substitution "is common enough in archaic Chinese." The fact is (as I found out myself since the publication of my edition of the Tao Teh King) that one of the very best editions actually reads 得 *teh*, to obtain, for 德 *teh*, virtue. Adopting this reading, I propose to render the passage as follows:

"The good I meet with goodness, the bad I also meet with goodness. Thus I actualise goodness. The faithful I meet with faith, the faithless I also meet with faith, thus I actualise faith."

My version differs from that of Professor Giles and I think renders the sense more accurately. Supposing we had the word "to gooden" in English in the sense of "being good toward," a literal version would run thus: "The good ones I gooden; the not-good ones I also gooden, to obtain (viz., actualise) goodness." The translation of Professor Giles not only assumes that the pronoun "them," which is not in the text, must be understood, but also implies that thus Lao-Tze would "make" the bad good. Even if we grant that the word 善 *shan* could be twisted to mean "to make good," instead of "to gooden" (i. e., to be good oneself), the light which our knowledge of Lao-Tze's moral doctrines throws on this passage demands that we interpret the words as meaning that his purpose is to realise goodness first of all in himself, without bothering about the badness of others. The utilitarian turn which Professor Giles gives to the sentence does not appeal to me as the genuine sentiment of Lao-Tze.

I will not carry the discussion any further, although I feel

tempted to have my say on several other points made by Professor Giles and might also indicate points of agreement;[1] but I will only add that though I can accept neither Professor Giles's arguments nor his main conclusion, I have learned a great deal from his unquestionably racy and vigorous article on "The Remains of Lao Tzu." His positive tone and the apparent arbitrariness of his views do not disturb me. I am satisfied with the result that his articles and books have been helpful to me, and I will not on account of a radical disagreement as to our conclusions, withhold from him the gratitude I owe him for his labors, which are both instructive and suggestive.

I conclude by quoting from Professor Giles his comments on the gem of Lao-Tze's sayings:

報怨以德

"Requite hatred with goodness."[2]

which (as Professor Giles says) "has justly been held to confer upon its author the catchet of a great Teacher."

Professor Giles says:

"Those who, wanting in the logical faculty, have been foolish enough to say that the Golden Rule of Confucius ranks lower than the Golden Rule of Christ, have here had to take their shoes from off their feet and admit that they are upon holy ground. Nevertheless, Dr. Legge, the greatest offender of all on the Golden Rule question, because the most competent in other respects, cannot resist flinging one little pebble at Lao Tzu's gigantic monolith among aphorisms: 'There hardly belongs to it a moral character.'

"But we may safely leave this one of Lao Tzu's sayings to rest upon its own merits."

* * *

Professor Giles has dug out from the writings of Lao-Tze's disciples some agrapha which are worth mentioning.

---

[1] When I translated the Tao Teh King, I had not seen Professor Giles's article, and it is a satisfaction to me to find that my translation essentially agrees with his versions as against others in passages quoted by him from chapters 5, 7, 13, 27, 29, 33, 38, 63, 64, 65 and 78.

[2] Professor Giles translates: "Recompense injury with kindness."

Han Fei Tze quotes from Lao-Tze this sentence:

白圭之行堤也塞其穴丈人之慎火也塗其隙

which means:

"Pao Kuei avoided floods by stopping the cracks in his dike; Chang-jen guarded against fire by plastering up the fissures [of his stove]."[1]

The quotation may be a genuine agraphon of Lao-Tze, a saying not written down by himself but preserved by oral tradition, until Han Fei Tze cited it. But it may not be; for we must remember that Lao-Tze never mentions names in the Tao Teh King.

The same author tells a story of little significance and adorns it with this saying of Lao Tze:

聖人蚤從事

"The wise man takes time by the forelock."[2]

Another sentence which occurs in a modified form in the Tao Teh King (chapter 27) is quoted by Huai Nan Tze thus:

不善人善人之資

"Do not value the man, value the abilities."

The story which Huai Nan Tze tells to illustrate the meaning of the sentence, though lacking in superiority, is somewhat more interesting than other stories of his, which therefore are left unquoted. Professor Giles condenses it in these words:

"Huai Nan Tzu says, a certain general of the Ch'u State was fond of surrounding himself with men of ability, and once even went so far as to engage a man who represented himself as a master-thief. His retainers were aghast; but shortly afterwards their State was attacked by the Ch'i State, and then, when fortune was adverse and all was on the point of being lost, the master-thief begged to be allowed to try his skill. He went by night into the enemy's camp, and stole their general's bed-curtain. This was returned next morning with a message that it had been found by one of the soldiers who was gathering fuel. The same night our master-thief stole the general's pillow, which was restored with a similar message; and the following night he stole the long pin used to secure the hair. 'Good

[1] Since I make these quotations from Professor Giles, I feel in duty bound to quote the translations in his own words.

[2] Professor Giles's translation is idiomatic or rather Shakespearean language. Literally the sentence reads: "The saintly man in [the right] time attends to [his] business."

heavens!' cried the general at a council of war, 'they will have my head next.' Upon which the army of the Ch'i State was withdrawn."

We conclude our article with the quotation of a noble sentiment which is as fit a subject for a sermon to-day as it was in the days of Lao-Tze. It is recorded by Huai Nan Tze, and is related by Professor Giles as follows:

"When a certain ruler was besieging an enemy's town, a large part of the wall fell down; whereupon the former gave orders to beat a retreat at once. 'For,' said he in reply to the remonstrances of his officers, 'a gentleman never hits a man who is down' 君子不迫人於險[1] 'Let them rebuild their wall, and then we will renew the attack.' This noble behavior so delighted the enemy that they tendered allegiance on the spot. Truly the feudal age of China was not wanting in lessons of magnanimity and heroism."

How much better would Western diplomats and generals have succeeded in their dealings with China if they had known more about Chinese literature, Chinese religion, and Chinese ideals of gentlemanly behavior!

EDITOR.

---

[1] Literally: "The superior man not threatens the man in [a state of being] down."

LITERARY CORRESPONDENCE.

FRANCE.

M. G. BARZELLOTTI, of the University of Rome, offers us in his *La Philosophie de Taine*, a work translated from the Italian by M. Dietrich, the most extensive study which has yet been made of this eminent man and one which in many respects may be regarded as definitive. M. Barzellotti professes a sincere admiration for Taine, but he always maintains towards him his freedom of judgment, and never once condones his weaknesses. He knows Taine thoroughly, and no less so the philosophical world from which he sprang, and he has skilfully and accurately indicated the points which unite him with English, German, and Italian thought. I may add that not only a professional philosopher speaks and renders judgment in M. Barzellotti, but also a man of broad intelligence whose insight extends to all the affairs of life.

The feature which strikes me every day more and more forcibly in Taine is the philosophical violence, if I may use the term, which has led him to compress all his observations into a few formulæ of astounding simplicity,—a real defect in my judgment and one in consequence of which his work is not destined to last. This procedure aided him wonderfully in the presentation of his materials, and contributed much to his success. The reading world loves "cut and dried" solutions even though they be wrong; precise points of view, even though cramped in range; the reduction of things to a few visible lines, even though these be misleading. They think that the questions thus presented to their minds have found their solutions, and they revel for the time being in that pleasurable

sentiment of intellectual repose which is always so dear to our indolence.

All in all, it is well that science should successively undertake to discover—and writers of exuberant temperament appear eminently adapted to this task—the different factors which explain nature, art, and history. Truth is so intricate and shows so many faces that the exhibition of any one of them is commendable, even though it be grossly exaggerated.

Taine was essentially a man of this type, and this salient feature of his character, viz., "the abuse of logical deduction projected into the infinite variety of the facts of life," could not escape the penetrating eye of his critic. I cannot dwell at greater length upon the work of M. Barzellotti, which should be read to be appreciated. The last chapter alone, *Taine écrivain, philosophe et homme*, is sufficient to give it a place among our best critical productions.[1]

* * *

M. DE ROBERTY, in his *Constitution de l'éthique*, the fourth essay of his series bearing the general title *Éthique*, pursues untiringly the exposition of his views of ethics considered as elementary sociology.

The central fact of his conception is that of *social* or *collective psychism*, of which he never ceases giving us a fresh definition. The regular and indefinitely prolonged contact of individuals,—of simple, psycho-physical units,—results, according to his theory, first in the formation of social groups and of their corresponding corporate mind, and then in the formation of social individuals and of their special mentality. It is never the individual that creates the group; on the contrary, the groups shape the individual to their likeness. The division of psychology into collective psychology and individual psychology appears a simple artifice of the intellect. In reality, the bio-social combination is presented as a process of which one

[1] I ought to add that the translation, which has been entrusted to the facile pen of M. Dietrich, is excellent, and will place him in the first rank of our French translators.

phase, that called "collective," precedes and prepares the way for the other, that called "intellectual."

Thus, the *mental* fact appears to M. de Roberty as the necessary consequence of the *social* fact, and this is the reason why he divides psychology into two parts, one belonging to biology and the other, the more extensive part, to sociology. On the other hand, it appears to him no less evident that the evolution of minds precedes and controls, as Comte also held, the evolution of societies. The reason which he gives for this apparent contradiction is that our needs are *ends* which re-engender their primitive cause; that is to say, if sociality has given rise to reason and to knowledge, reason and knowledge have in their turn become ends, motives of action, capable of re-creating and reinforcing the sociality which gave them birth. In fine, a *teleological* series is opposed to the purely *causal* series, and it is in the former that the so-called intellectual evolution controls all the other social changes.

Whilst Comte attributes this evolution to philosophical conceptions, M. de Roberty very correctly subordinates philosophy to science. The new science, he writes, does not enrich the old philosophy; it undermines and ruins it; the "constitution" of a science always marks a defeat for contemporary philosophy. The four principal stages of social life should accordingly be arranged in this order: Science, philosophy, art, labor. Science creates those blossoms of the mind which are known as philosophies and religions, and science is reflected in art and in labor.

Another consequence of these principles is that ethics is not separated from the great body of sociological studies; we must not say with Comte that ethics is subordinate to sociology, or speak with Littré of a "subjective theory of man," who is to be fashioned by ethics, esthetics, and psychology. Severed from the social fact, these theories have no meaning; to explain history sociology is no longer obliged to revert to some particular factor, such as the struggle for life, elimination, population, etc.: the real central fact, the phenomenon which is anterior to and exterior to the mental fact, subsequent to and exterior to the vital fact, is the transmutation of the organic or biological fact into the supra-organic fact;

that is to say, the transformation of the species or race into society, of egoism and of strife into altruism and co-operation. Philosophy, ethics, and religion spring out of society, and undergo transformation coincidently with it.

Such is the doctrine of M. de Roberty in the form which he has given it in his new volume. I am not absolutely certain, however, that I have reproduced or arranged his ideas with perfect accuracy; it is to be desired that he should some day present himself a *résumé* of his entire philosophy, so as to forestall all possibility of wrong impressions, for his work certainly merits wider dissemination.

* * *

In psychology, I am pleased to be able to note an excellent work by M. FR. PAULHAN, entitled *La psychologie de l'invention.* M. Paulhan sets up a progression sharply marked by the following three stages: routine, imitation, and invention. In his mind, invention signifies a rupture with routine; it supplies a new fact which is hostile to routine and to imitation and profits by them as later they in their turn profit by invention. The inventive synthesis appears as a simple element in a long concatenation of facts. Invention develops,—and it is on this point that the analysis of M. Paulhan is most interesting,—either by evolution, by transformation, or by deviation. Development by *evolution* is equivalent to increased systematisation, or progress; there is increase of the number of the elements and greater harmony among the relations that unite them. The accident of circumstances in invention certainly plays a great rôle; but M. Paulhan is rightly of the opinion that evolution is not entirely accidental and that a primitive tendency exercises upon the development of the inventive germ a determining action.

Whereas evolution implies the logical systematisation of successive events, *transformation* on the contrary implies more incoherence and opposition among them. It is a regular development, which is accomplished sometimes even at the expense of eliminating the original idea. *Deviation* borrows from both processes; it is marked by the development of parasitic and discordant parts.

But always under all of these three forms we have some kind of systematisation, the advance of which is more or less regular, a sort of crystallisation of the thought about a primitive nucleus.

MM. Séailles, Guyau, Ribot have considered invention as a continuation of instinct. M. Paulhan observes that it is a continuation of instinct by opposition to instinct, that it is therefore the result of struggle, and that it is owing to this that it is precisely that which it is. His thesis is erected upon numerous examples which render his work clear and attractive. This little volume adds a valuable page to the already rich store of this author's productions.

* * *

M. AMÉDÉE MATAGRIN, in a rapid and excellent *Essai sur l'ésthétique de Lotze*, makes us acquainted with a part of the labors of this illustrious master not generally known. From this study it would appear that if Lotze did not succeed in freeing himself from the metaphysical idealism of Kant and Hegel, he was still a genuine precursor of Fechner. His peculiar bent forced him to carry the subject of æsthetics into the domain of experimental psychology; it was impossible for him to conceive of an æsthetics in which account was not taken of the immediate phenomena of sensation, and he also endeavored to estimate the rôle of the *motor stages* which sensation involves. Himself a master of technique, his work is rich in interesting remarks upon the special arts, as music, architecture, painting, sculpture, and poetry. The little volume of M. Matagrin therefore appears to me to be a useful addition to the critical history of philosophy.

* * *

The very remarkable work of M. SCIPIO SIGHELE, viz., *La foule criminelle*, is too well known to our readers to justify much discussion of the second edition now offered to us. This second edition, however, has been almost remodelled and so constitutes in large part an altogether new work. M. Sighele no longer limits his treatment to the crimes of mobs, but extends it to the various other manifestations of men in masses; with the result that his work constitutes a solid contribution to that collective psychology which

it is so much to the credit of the Italian school of criminal anthropology to have established.

"The powers of men gathered together in masses are destroyed and not increased." This profound thought, incidentally advanced by Gabelli, appears to M. Sighele to cover an entire order of phenomena which merits study. The gatherings of men do not reproduce the psychology of the individuals composing them, and the less so as these individuals are more heterogeneous and not bound together organically. This is a law that furnishes the key to many events.

Several observers have recognised the same truth; one of them whom I have never seen mentioned and whom M. Sighele cannot know, is Baron de Vitrolles in his *Mémoires et relations politiques* (Paris, Charpentier, 1884). "One cannot but think," writes Vitrolles from personal experience, "that the individual value of those collective bodies which are called councils or assemblies, mathematically speaking, falls far short of the average value of the intellects composing them and that it diminishes in the direct ratio of the numbers constituting them. . . . Where unity is necessary, the deliberation of several always tends to disintegration," etc.

* * *

From the pen of the late lamented Louis Bourdeau, who was a courageous and honest worker, we have a posthumous volume entitled *Le problème de la vie, Essai de sociologie générale.* In Book I., M. Bourdeau attempts "an analysis of the individual life," an analysis of the elements of the body and of the correlative psychical functions; in Book II., he sketches his "syntheses of the collective life," from the symbiosis of human beings to the cosmical syntheses; Book III., entitled "Conclusions and Deductions," treats of the problem of evil in nature, and of positive ethics as deduced from the laws of life.

We shall dwell on two salient features of the doctrine of M. Bourdeau, relative to the evolution and the government of the world. "The same progression," he writes, "which leads from the atom to man necessarily continues from man to the cosmos; thought cannot break this rational concatenation. Since forces

all manifest themselves in the great totality of things with different degrees of intensity or attenuation, since there are everywhere mechanism and movement, physical forces in action, activities in play, and life in the potential state, so everywhere there must be psychism in preparation or in development." On the other hand: "That there is in the universality of things a principle of psychical action which co-ordinates them, controls them, directs their evolution, and leads them to a definite end, cannot be doubted when one reflects on the harmony of the great body of facts which point to this opinion." Adopting the opinion of Leibnitz, which likens God or the reason of things to a "necessary substance" from which everything emanates, "here," says M. Bourdeau, "should be the terminating point of every conception of divinity, and the notion of the other affords a more exact expression of it than mythological entities, which are but mere likenesses of man enlarged and transferred to Heaven."

With respect to the problem of evil, the author offers the only possible solution, which is that of laboring to disengage the good from the evil and to accept death itself as the necessary condition of all progress.

* * *

M. ALBERT LECLÉRE, in an *Essai sur le droit d'affirmer*, proves himself a subtle, and perhaps too subtle a, dialectician. To criticise the concepts of "consciousness" and "phenomenon" on the principle of Parmenides that the contradictory can be neither real nor thought: to establish the negations and affirmations essential to "thought in itself,"—such are the objects of this work and such its method. Absolute negation of the phenomenal (of consciousness, phenomenon, and science conceived as real fact), justification of science considered as purely ideal fact, establishment of a spiritualistic metaphysics and of an ethics correlated with this metaphysics and of which the certainty is guaranteed by the condition that its development is normal to the thought: such are its results. "The world of science is illusory," writes M. Leclére; "the science of this world is not the science of reality of any kind; the sciences have no other value than that of pure achievements of an under-

standing which so far as it is concrete thought is nothing but the illusory act of postulating the world and of thinking itself thinking and thinking it." He deduces from these declarations the conclusion that there is no meaning in opposing science to religion and that there can be no real conflict between science on the one hand and religion of any kind on the other.

The book, in fine, is a species of rehabilitation of Eleaticism based on new data and decked out with new arguments.

* * *

The work of M. CH. RENOUVIER, *Les dilemmes de la métaphysique pure*, is deserving of more than the few lines' comment we can give it. This work is in every way remarkable, and quite worthy of its eminent author. M. Renouvier has applied himself to the task of disengaging the principles to which we are led in all discussions touching philosophical concepts,—principles which are reducible to five in his analysis, viz., the principle of condition and contradiction, the principle of substance, the principle of infinity, the principle of determinism, and the principle of consciousness. The explanation which he gives of each of these principles constitutes a sort of history of philosophy in its entirety, clearly and distinctly classified and admirably ordered. But the peculiar object of his work is the establishment of a doctrine, and the novel feature of this doctrine is the critical method which M. Renouvier employs.

In connexion with each of the principles in question, under the titles "The Unconditioned," "The Conditioned," "Substance," "The Law or Function of Phenomena," "The Infinite," "The Finite," "Determinism," "Liberty," "Things," and "Persons," he formulates two contradictory propositions, which form the *dilemmas* between which our mind must choose. Then by a comparison of these dilemmas he endeavors to determine the logical relations of the theses on the one hand and of the antitheses on the other, and finally addresses himself to the task of reducing these five alternatives to a single final and fundamental alternative.

The theses of the dilemmas appear to him connected with one another by the *principle of relativity*, which they apply to the funda-

mental notions of metaphysics: the notion of *condition* and the determinations of *quality*, *quantity*, *causality*, and *consciousness*, or *personality*. The antitheses are connected with the principle of relativity by their common opposition. These bonds of connexion, however, are not so rigid but that the theses and the antitheses may range themselves in rigorous logical order, or that even the admission of one thesis excludes its reciprocal in the ratiocinations of philosophy. The question is accordingly to discover the fundamental alternative, "the most favorable point of division for the logical exposition of the two opposed syntheses": and it is at the dilemma of determinism and liberty where M. Renouvier deems it obligatory to stop. Either, says he, determinism and its consequences: the infinite, universal substance, the illusion of acting, etc.; or liberty, given in the consciousnesses which find their motives in themselves, and the large outlook of the "possible." Liberty accordingly is for him the fundamental and rational belief; and determinism here opposes personalism. At the bottom we invariably see that the mind stumbles at the difficulty of conceiving how anything new is produced in the world and how conditions even relatively constant recur. The question is to learn whether belief in liberty is sufficient to dissolve it, whether the thesis is not as necessary to us as the antithesis, whether consequently the choice is necessary or even possible between the dilemmas of pure metaphysics.

* * *

M. RENOUVIER has written an instructive preface to a philosophical dialogue composed by M. LOUIS PRAT, under the title of *Le mystère de Platon*. This dialogue is a fine composition and I have much admiration for this form of discussion; but unfortunately the time for the perusal of such works is lacking to us, and modern readers demand volumes that may be quickly read and that offer clear and precise conclusions.

The series of *Great Philosophers* is continued with *Saint Augustin* by M. L'ABBÉ JULES MARTIN. This important work has been written with competence and breadth of view and may be read with profit.

M. BINET gives us a volume, *La suggestibilité*,[1] as well as three important contributions in the *Année psychologique*, bearing respectively the titles: *Nouvelles recherches sur la consommation du pain dans ses rapports avec le travail intellectuel*, *Attention et adaptation*, and *Recherches sur la sensibilité tactile pendant l'état de distraction.*

I should mention further from the pen of MLLE. LUCIE FAURE, the daughter of the late lamented president of the French Republic, a study on *Newman, Sa vie et ses oeuvres* (Perrin, publisher); from the pen of M. G. FONSEGRIVE, *La crise sociale* (Lecoffre, publisher); from the pen of M. F. BUISSON, four beautiful lectures bearing the title, *La religion, la morale, et la science: Leur conflit dans l'éducation contemporaine* (Fishbacher, publisher); from the pen of M. R. DE GOURMONT, *La culture des idées* ("*Mercure de France*"); and finally, from the pen of M. BERNARD PÉREZ, the second edition of his admirable and finely conceived study, *Mes deux chats: Fragment de philosophie comparée* (F. Alcan, publisher).

LUCIEN ARRÉAT.

PARIS.

---

[1] Schleicher Frères, publishers. The other works mentioned are published by F. Alcan.

CRITICISMS AND DISCUSSIONS.

LAO-TZE AND PROFESSOR GILES.

[In reply to an inquiry as to the validity of my arguments against the position of Professor Giles with respect to the authenticity of Lao-Tze's Tao Teh King, Mr. Teitaro Suzuki, a Japanese scholar, has written the following comments in criticism of my own and Professor Giles's positions. Since these comments contain a good deal of material that will be of assistance to our readers in forming their opinion, we have deemed it pertinent to publish them here.—*Ed.*]

The Tao Teh King is a collection of aphorisms and not a systematic treatise on philosophy. Is this, however, reasonable ground for assuming that Lao-Tze wrote his work when his health was broken down, and does this fact account for his somewhat unintelligible style of writing? I think not. The probability is that Lao-Tze was not so careful in writing as modern writers are, and that he simply put down his thoughts as they flashed through his mind, however incoherent they were. Chinese philosophers, before the introduction of Buddhism, were as a rule very unsystematic. As for Lao-Tze, this irregularity was in full accord with his character and mode of thinking.

Further, allow me to say that Sze-Ma Ch'ien was not an admirer of Lao-Tze. Everything in the *Shi ki* tends to prove the contrary or at least goes to show that he was favorably disposed towards Confucianism and not Taoism. His father, however, seems to have had a liking for Lao-Tze.

It is difficult to understand how Mr. Giles can imagine he finds a support in Sze-Ma Ch'ien's *Historical Records* (the *Shi ki*) for his theory of the unauthenticity of Lao-Tze's Tao Teh King, for there are in addition to the one quoted by Dr. Carus in the present number of *The Monist*, pp. 574, a number of quite explicit passages in the *Records* which prove the contrary; and the assertion that Sze-Ma Ch'ien "had never set eyes upon the work" of Lao-Tze, must be rejected as unwarranted. Here are some quotations which cannot be reconciled with Professor Giles's criticism:

1. In summing up Lao-Tze's doctrine in a brief epilogue to the collective lives of Lao Tan, Chuang Chou, Han Fei, and Shên Pu-hai, Sze-Ma Ch'ien says:

"The Tao that is most honored by Lao-Tze is void and non-existent, and [spontaneously] responds to impulses; its modifications are endless. Therefore his writings and phraseology are full of mystery and beyond comprehension. . . ."

老子所貴道 虛無因應 變化於無窮 故著書辭稱 微妙難識

Could Sze-Ma Ch'ien make this statement without ever having set eyes on Lao-Tze's work?

2. Sze-Ma Ch'ien occasionally quotes Lao-Tze. Here are a few of the quotations I have found while turning over the leaves of the *Shi ki* at random.

a. In the introductory remark to the *Lives of the Merciless Judges* (Biographical Section 62), Sze-Ma Ch'ien, speaking of both Lao-Tze and Confucius quotes the following passages from Lao-Tze: "Superior virtue makes no show of virtue, therefore it has virtue. Inferior virtue never loses sight of virtue, therefore it has no virtue.[1] (The more discriminating become laws and ordinances, the more there appear thieves and robbers.)"

上德不德是以有德 下德不失德是以無德 (法令滋章 盜賊多有)

He adds: "How well remarked!"

But these first two passages are exactly what we now find in Chapter 38 of the Tao Teh King. Mr. Giles, who thinks that the characters not quoted by Han Fei Tze are not genuine, omits the second passage 下德不失德 是以無德 and declares that it "makes nonsense" (p. 256) and weakens the whole drift of the chapter. Further, his interpretation of the first passage is strange. In archaic Chinese 得 *teh*, to obtain, frequently stands for 德 *teh*, virtue, not, as Professor Giles claims, 德 *teh*, virtue, for 得 *teh*, to obtain. The passage should read accordingly, "The highest virtue makes no show of virtue, therefore it is virtue."[2]

The characters of the passage quoted above in parentheses do not appear in the present Tao Teh King. But the sense is quite Laotzean: "The more discriminating become laws and ordinances, the more there appear thieves and robbers."[3]

A little farther down in the same introductory remark mentioned above, Sze-Ma Ch'ien again alludes to Lao-Tze together with Confucius, though this time he does not mention Lao-Tze's name, but quotes the well-known passage, "When inferior men hear of the Tao, they greatly ridicule it."

β. The second sentence of the first chapter is quoted by Sung Chung and Chia Y after their interview with the astrologer Sze-ma Chi-chu, above referred to (the Biographical Section 67). The quotation is not quite literal; it reads:

無名萬物之母

"The unnameable is the beginning of the ten thousand things," and not (as reads the text of the Tao Teh King) "of heaven and earth."

---

[1] Dr. Carus's translation with a little modification.

[2] This first passage is also quoted by an astrologer called Sze-ma Chi-chu whose life forms the Biographical Section 67 of the *Shi ki*.

[3] The same idea is expressed in Chapter 19.

γ. As an introductory remark to his *Lives of Industrial Men* (Biographical Section 69), Sze-Ma Ch'ien quotes a part of Chapter 80 in the Tao Teh King, the same which Professor Giles condemns as "pitchforked into the Tao Teh King." The quotation in full runs as follows: "When administration reaches its perfection, neighboring states are within sight of one another, the voices of cocks and dogs are heard everywhere, the people are delighted with their food, pleased with their clothes, contented with their customs, and rejoice in their business. Up to old age and death, they do not have any intercourse with one another [as all their wants are satisfied at home]."

δ. At the end of the Biographical Section 45 (lives of some famous physicians) Sze-Ma Ch'ien quotes a modified version of the first passage of Chapter 31 in the Tao Teh King. The quotation reads: "Excellence and beauty are things unblessed." The truth of this saying is proved by the story of a physician who was persecuted by his rivals on account of his superiority.

These allusions apparently prove that Sze-Ma Ch'ien's knowledge of Lao-Tze was not a mere matter of oral tradition, but that he was intimately acquainted with Lao-Tze's work; and when we consider the significance of this fact in conjunction with the statement given by Sze-Ma Ch'ien to the effect that Lao-Tze wrote a book on the *Tao* and the *Teh*, consisting of two parts, the conclusion is obvious.

ε. Sze-Ma Ch'ien's father, like his famous son, was an official historian of the Hang Dynasty; but he was besides a scholar of wide learning and a student of the Taoist doctrines under Huang-Tze. He seems to have taken a very favorable view of Taoism, as is shown in his brief exposition of the different philosophical systems that were then prevalent. This exposition is incorporated in Sze-Ma Ch'ien's epilogue to the *Historical Records*, which alone makes it highly probable that Sze-Ma Ch'ien had carefully studied the work of Lao-Tze as we have it now. This can be further corroborated by quotations and by other references, but I abstain from doing so because it would protract the discussion and become monotonous.

Mr. Giles is right when he says that Lao-Tze's writing was not known in Sze-Ma Ch'ien's time under the present title of Tao Teh King. Like many other philosophers' works in those days, it is highly probable that the work which we at present know as Tao Teh King was then known simply as Lao-Tze. The work of Chuang Chou is called *Chuang-Tze;* that of Mencius, *Mencius;* that of Lieh-Tze, *Lieh-Tze*, and so forth. Only the work of Confucius was not named after its author, for it was not written by him, but compiled by his disciples. However, when writers quote from the *Lun yü*, they do not generally say, "It is written in the *Lun yü*," but merely, "Confucius says."

As to the inaccuracy of the quotations from Lao-Tze as they appear in various philosophical writings, I would say that it by no means disproves the authenticity of the Tao Teh King; for Chinese scholars, especially those ancient writers in whose times the art of printing was yet unknown, were notoriously careless with their quotations; they rarely took pains to cite the original as literally and as faith-

fully as modern writers do; they even went so far as to twist the real meaning of a quotation so as to make it suit their own purposes. Add to this the vagueness of Chinese syntactical construction, and there is left the widest scope for misquotations. I make bold to say, however, that there are fewer misquotations from Lao-Tze than from any other author.

Finally, Mr. Giles's statement that "many of Han Fei Tze's quotations make sense where the corresponding sentences in the Tao Teh King make nonsense," proves nothing. Han Fei Tze had his own way of interpreting Lao-Tze's sayings, which, however, we are by no means bound to accept as true. Han Fei Tze's "Explanations" and "Illustrations" are not a text-commentary to Lao-Tze, but a collection of comments. He picked up from Lao-Tze those passages which suited his purpose. Not being a speculative mind like Lao-Tze and exhibiting a practical tendency, he explained all the aphorisms from Lao-Tze from ethical and civic standpoints, and those passages which peculiarly reflect the speculative power of Lao-Tze's metaphysics, receive only a commonplace interpretation in the hands of Han Fei Tze. See, for instance, how superficial his comment on 無狀之狀 無物之象 "*Wu chuang chi chuang, wu wuh chi siang*" (Cap. 14), is, while Dr. Carus discovers the Kantian philosophy of pure form foreshadowed there, and native scholars, when they become familiar with Western thought, will agree that in this as in many other obscure points of Laotzean philosophy Dr. Carus has rightly hit the mark. Han Fei Tze sees in Lao-Tze only a teacher of morals, of *Lebensweisheit*, and statecraft, but not a metaphysical thinker. Therefore we cannot doubt that Han Fei Tze's Lao-Tze is an obscured and in many points distorted reflexion of the original.

As to the main question I agree essentially with Dr. Carus; I believe that Lao-Tze wrote a book which is still extant under the title of Tao Teh King. The book was not divided into so many chapters, but simply into an "upper" and a "lower" scroll; the "upper scroll" beginning with the passage on the nature of the *Tao* and the "lower scroll" with that of the *Teh*, just as we have them in our present Tao Teh King. It would be an unparalleled hypercriticism not to regard Sze-Ma Ch'ien's statement as quite reliable.

The Tao Teh King, as I said before, is a collection of aphorisms, not an exposition of systematic thoughts. Lao-Tze was a child of the sixth century B. C. and had therefore no ambition to present his philosophical views of life and the universe after the manner of Kant or Hegel in accordance with the strict logical process of thinking of European thinkers. As a mystic he merely wrote down the thoughts with which he was inspired by his wonderful intuitive knowledge. If we accept the present division into chapters as a guide to their meaning, we may not infrequently find ourselves at sea, but the lack of coherency and the obscurity of the Tao Teh King have nothing to do with its authenticity.

In concluding my letter, I am reminded of the humorous poem of Pei Lê Tien, a noted poet of the Tang Dynasty, with regard to the Tao Teh King:

"The sage declares, 'One who knows does not speak, and one who speaks does not know;' why then is it that the sage himself uttered those five thousand and odd words?"

TEITARO SUZUKI.

A HISTORY OF CHINESE LITERATURE.[1]

In the production of his *History of Chinese Literature* Mr. Giles has added one more to the long list of obligations under which he has laid the public, and has materially increased the admiration with which all sinologues regard his already Herculean labors. The volume before us may be considered the completion of a boon of which Mr. Giles gave us a foretaste some few years back in *Gems of Chinese Literature.* This new work, however, more than fulfils the promise of the former one. A large octavo volume of 450 pages, it furnishes the Western reader with a most interesting review, which will at the same time satisfy the severely exacting demands of specialists in the Chinese language, of the whole field of Chinese literature from the earliest times down to its latest productions under the rule of the Manchu.

Those whose experience includes weary memories of long hours of drudgery endured in mastering the perplexing but fascinating ideographs—neither hieroglyphs nor letters—which guard the gateways of celestial learning, and who have spent toilsome years in digging out their hardly acquired knowledge from books about as badly printed as any in existence, will envy the favored mortals who under Mr. Giles's safe guidance have a way through the wilderness cut and smoothed for them, and thus (so to speak) can know Chinese without the trouble of learning it.

Professor Giles's new book forms one of a fairly comprehensive series conceived on a uniform plan, under the able editorship of Dr. E. Gosse. Each volume is a history of some national literature. The volumes are published at an unvarying price, six shillings; the work under review is the tenth and last volume issued; but six others are in preparation to complete the series. It appears at a favorable time; not only because the Chinese Empire has during the past year been so prominently though most unenviably before the world, but what is of more consequence, because its pages will serve as a corrective and counter-balance to certain erroneous and unfavorable impressions which recent events in China appear to force upon us. If we had but the occurrences of the past twelve months to judge by, we should pronounce the Chinese a savage, treacherous, and barbarous race. How singular then must be the reflexions produced by a perusal of this volume, which

---

1 *History of Chinese Literature* by H. A. Giles, LL. D., Professor of Chinese at the University of Cambridge (Aber.). London: William Heineman. Price, 6s. New York: D. Appleton & Co. Price, $1.50.

bears overwhelming testimony to the fact that they have been possessors, in unbroken succession, through a long line of sages and scholars, of a noble literature of wide-embracing scope, from days long anterior to the Christian era, the vitality of which is fresh to-day! When Greece was in the zenith of her splendor, the best literature of China would not have been shamed by comparison with her matchless productions; and, superb as have been the masterpieces of the Victorian age, yet for polish and for elegance (we dare not venture the comparison in respect of other qualities) they do not surpass some of the models of modern China.

To say that the *History of Chinese Literature* is a thoroughly readable book is but to say that it is like all the other works which have proceeded from Professor Giles's pen. And he has given us not a little. The great *Anglo-Chinese Dictionary* published about ten years ago is in itself simply a colossal monument of toil, enough for any one man to produce in a life-time. Though building on the foundations of Morrison and Williams it far outstrips their limit of attainment, and his original contributions to the work are enormous. Then Mr. Giles has given us a fine translation of *Chuang Tzŭ* and another of *Lieh Tzu*, the fascinating *Masters* who combined the mysticism of Taoism with the perspicacity and vigor of the Confucian school. He has published a work on the *Tao Tê Ching* in which he has challenged the opinions of the ablest sinologues who have labored in the field of Chinese literature. He has translated the *Liao-Chai*.

His *Gems of Chinese Literature* was the forerunner of the present work.

Synoptical Studies in Chinese Characters and *Mandarin Without a Teacher* are works of a minor character but involving no small amount of toil. These by no means exhaust Professor Giles's almost endless productions. We are disposed to say that in his own department he is supreme. Great among the greatest, if not greatest among the great, Cambridge may be proud of having chosen as occupant of the chair of Chinese, one who has done so much to adorn and illuminate the field of literature which he represents. It is no real disparagement of others, toiling in these very difficult furrows, to say that they have not always succeeded in making their books interesting to the ordinary Western reader. Legge's great translations of the classics are most admirable, but they are toilsome reading. Chalmers has written much the immense value of which is indisputable, but there is no great joy in its perusal. *Notes on Chinese Literature* by Wylie, referred to in Mr. Giles's *Bibliographical Note*, has never been surpassed in its kind, but it is a book for reference, not for reading. Dr. Edkins and Professor Douglas have done much literary work of excellent quality teeming with erudition. For the most part it is heavy with learning and lacks brightness of style. All these are much the same to us as *Paradise Lost*. We acknowledge them great, we profoundly and sincerely admire them. But we seldom read them, and if we do we are glad when we have finished. It is Mr. Giles's superlative endowment that he cannot write in an uninteresting way. From the little Mandarin Primer up to the great Dictionary all his works have on them an indelible stamp of freshness, of realism, of practicality, of

vigor, of clear, crystal modernity (may the word be pardoned) which holds us: we feel that we are being taken the shortest cut, that no single moment of our time is being wasted, that our author is the sworn foe of Dryasdust and all his kindred, that he is remorseless in consigning all literary lumber of whatever kind to limbo, that he may be oracular, dogmatic, pugnacious to a degree, scant of courtesy sometimes to opponents, but never dull. Does he know so well—we wonder—the bitterness of being bored that he spares his very enemies this last and most extreme cruelty of infliction?

The secret of his method, so far as analysis can discover it, seems to be the swift and utter rejection of all kinds of extraneous or irrelevant matter, a bull-dog-like tenacity of sticking to the point and of having only one point, viz.: the very throat of his subject; he is always strictly attending to business, his mind fixed on the main issue. Have nothing to do with rubbish, however respectable, that seems to be his motto. Other writers show skill in separating the wheat from the chaff, but their care seems to be lest some grains of wheat should be lost among the chaff. Mr. Giles is content to let stray grains escape him, but what he takes must be pure wheat, he will have no chaff at any price.

The present volume affords more than one or two striking instances—in some of which we consider he is singularly happy, though perhaps now and then the crowning merit errs by excess—of this special quality of our author.

Mr. Giles's healthy scepticism about the genuineness of the text of Lao Tzŭ's *Tao Tê Ching* is an instance in point. The text is probably in numberless places hopelessly corrupt, and of many clauses the honest truth, as Mr. Giles suggests, is that it is impossible to extract from them any clear meaning at all. This is in striking variance with the crisp paradox which gleams with epigrammatic brilliancy from the undoubtedly genuine portions. The best translation we have yet seen of this very remarkable classic is the one published about two years ago by Dr. Carus of Chicago.

Just how the text has been brought to its present condition of confusion may be matter for much argument. Modern interpolations are a simple enough explanation, and the principle that misleading results are not necessarily due to fraudful designs holds good in China as in far different literary quarters. In China there is no great conscientiousness and correspondingly no very keen curiosity in regard to questions of authorship. But we prefer to think the corruption of the text is due at least as much to mere errors of copyists and block-cutters. The *Tao Tê Ching* abounds in various readings but these are a proof of care and concern for the text. Yet we fully agree with our author, that when no more definite meaning can be extracted from the text than the following passage, it is high time to discard it altogether as a mere occasion for wasting time. The translation is by Dr. Chalmers and is quoted by Mr Giles.

"The Spirit (like perennial spring) of the valley never dies. This (Spirit) I call the abyss-mother. The passage of the abyss-mother I call the

root of heaven and earth. Ceaselessly it seems to endure, and it is employed without effort."

We spare our readers an alternative rendering by Dr. Legge, which is in verse, is much longer and much worse. We have heard of "prose run mad," as a definition of bad verse, but what shall we say of prose which was mad in its prosaic state but has reduplicated its insanity by running into crazier rhyme?

Professor Giles's position has been stoutly contested, and many a champion is prepared to stand up for the genuineness of the book as a whole, but we think he is right in his rejection of large portions of it, and his refusal to see meaning where there is none is as admirable as it is sturdy.

If Mr. Giles's opinions on this book are liable to bring him into collision with Western sinalogues, on other and what the scholars of the Celestial Empire would deem much more important subjects he holds to convictions which from the Confucian standpoint are most heterodox, which are as radical as those of K'ang Yu Wei, and which would certainly compel the learned Doctors of the *Han Lin Yuen* to disqualify him for a degree in their *Pencil Grove College*. The light esteem in which he holds the *Spring and Autumn Annals* and also the renowned *Book of Changes* are enough to make their venerable hair stand on end, even to

> "Each particular hair,—
> Like quills upon the fretful porcupine."

The former book is held in the most profound veneration by Confucianists. It is the only one that has come down to us from the pen of the great sage himself. The *Introduction* to the *Great Learning* is, indeed, supposed to have been the composition of Confucius, but this is by no means certain, it is very short, not longer for example than the twenty-third Psalm, and there is nothing else on which the heaven-aspiring reputation of the mighty Master can find support beside this scrap and the *Spring and Autumn*. It was therefore a necessity to exalt the sole book of the great sage above all books. The national admiration is expressed in a neat little rhyme which perpetrates a successful pun on its name:

> "In Spring study your book,
> In Autumn study your book.
> In Spring and Autumn study your book,
> Study your 'Spring and Autumn.'"

Professor Giles deals with the lofty claims made for the book in a spirit of unimpeachable candor. After giving four extracts from it, which read exactly like half a page from a pocket almanac, he comments as follows:

> "The *Spring and Autumn* owes its name to the old custom of prefixing to each entry the year, month, day, and season when the event recorded took place; spring, as a commentator explains, including summer, and autumn winter. It was the work which Confucius singled out as that one by which men would know and commend him, and Mencius considered it quite

> as important an achievement as the drainage of the empire by the Great Yü. The latter said: 'Confucius completed the Spring and Autumn, and rebellious ministers and bad sons were struck with terror.' Consequently just as in the case of the Odes, native wits set to work to read into the bald text all manner of hidden meanings, each entry being supposed to contain approval or condemnation, their efforts resulting in what is now known as the praise-and-blame theory. The critics of the Han Dynasty even went so far as to declare the very titles elliptical for 'praise life-giving like Spring, and blame life-withering like Autumn. Such is the *Ch'un Ch'iu*, and if that were all it is difficult to say how the boast of Confucius could ever have been fulfilled."

He is loud, however, in praise of Tso's commentary which in his opinion supplies what was wanting but *supposed* to be present in the text of Confucius. Perhaps we may save the reputation of the sage by saying that, at any rate, the commentary must have been inspired by the text.

Mr. Giles' treatment of the *Book of Changes* is yet more unsparing. Still, like the previous judgment, it is in our opinion well-deserved. This book is ascribed to *Wen Wang* (B. C. 1122) and is therefore sufficiently venerable as a product of the dim and distant past. Its mysterious symbols, known as the *Pa kua*, the Eight Diagrams, have exercised a spell of unaccountable potency over the whole mind of the Chinese race. They are simplicity itself so long as you seek no meaning in them, but the whole mystery of creation, of life, of being, of destiny, are supposed to be in them by *the believing*. Reduced to two, they constitute the *Yin* and the *Yang*, the dual principles of all Chinese philosophy; squared they make the sixty-four Diagrams to which the author of this thrice-mysterious book attached sixty-four short essays. The same little formula of a line unbroken, set in relation to a line broken, is the foundation of the many systems of divination practised by the very numerous astrologers and geomancers of China; who are almost universally consulted on such occasions as a birth, a marriage, a death, the taking of a journey, the erection of a building, the suspected faithlessness of a spouse, a change of residence, and a thousand other things. Sometimes when a doctor can make nothing of a case, and is inclined to ascribe the sickness to supernatural agency rather than material causes, he calls in a *Suan Ming Ti* or a *Fêng Shui Shien Shêng* (an astrologer or geomancer) who generally discovers an *invisible* and malignant spirit whom he induces to make an *invisible* exit from the house or even from the body of the afflicted one. That remote and mythical personage Fu Hsi is supposed to have taken his eight Diagrams from the back of a tortoise. It is a pity he did; they had some meaning there, they have none in this book, which no doubt was about as intelligible to its author *Wen Wang* as it is to us. It plays the part of the Book of Revelation to the Confucian Canon, though chronologically it stands at the beginning instead of the end. Like the Book of Revelation, no devout be-

liever pretends to have any adequate comprehension of it: but to suggest to the ordinary scholar, that it may safely be discarded or neglected as meaningless would be like asking the late Dr. Cumming or the present Mr. Baxter to surrender his faith in the Apocalypse.

Yet Mr. Giles has the courage of his convictions, for after a specimen quotation from Legge's translation, which is simply glorious in its complex and involved vacuity, he remarks:

> "As may be readily inferred from the above extract, no one really knows what is meant by the apparent gibberish of the *Book of Changes*. This is freely admitted by all learned Chinese, who nevertheless hold tenaciously to the belief that important lessons could be derived from its pages if we only had the wit to understand them. Foreigners have held various theories on the subject. Dr. Legge declared that he had found the key with the result already shown. The late Terrien de la Couperie took a bolder flight, unaccompanied by any native commentator, and discovered in this cherished volume a vocabulary of the language of the Bak tribes. A third writer regards it as a calendar of the lunar year, and so forth."

In keeping with the above bold method of treatment is Mr. Giles's summary rejection of the solemn glosses with which the *Book of Odes* has been loaded. These he insists (and very sensibly) on taking in their natural sense as what they are mostly called, *National Airs* (*Kuo fêng*), rejecting without hesitation all those ethical or political significations which have been foisted on them by a method of exposition which resembles that of the commentaries on the Song of Solomon by Puritan divines.

Very interesting are the quotations given by the Professor in illustration of the clear Monotheism of the *Odes*, inasmuch as modern Confucianism halts in hopeless uncertainty between a polytheistic, a pantheistic, and an atheistic creed. We give two specimens out of a number:

> "Great is God,
> Ruling in majesty."

Also:

> "How mighty is God,
> The ruler of mankind!
> How terrible is his majesty."

The following gleanings from compositions so very ancient should be noted by the antiquarian, the naturalist, and the historian.

> About seventy kinds of plants are mentioned in the Odes, including the bamboo, barley, beans, convolvulus, dodder, dolichos, hemp, Indigo, licorice, melon, millet, peony, plantain, pepper, scallions, sorrel, sow-thistle, tribulus, wheat; about thirty kinds of trees, including the cedar, cherry, chestnut, date, hazel, medlar, mulberry, oak, peach, pear, plum and willow;

about thirty kinds of animals including the antelope, badger, bear, boar, elephant, fox, leopard, monkey, rat, rhinoceros, tiger, and wolf: about thirty kinds of birds, including the crane, eagle, egret, magpie, oriole, swallow and wagtail; about ten kinds of fishes, including the barbel, bream, carp, and tench; and about twenty kinds of insects, including the ant, cicada, glow-worm, locust, spider, and wasp.

Among the musical instruments of the Odes are found the flute, the drum, the bell, the lute, and the Pandæan pipes; among the metals are gold and iron with an indirect allusion to silver and copper; and among the arms and munitions of war are bows and arrows, spears, swords, halberds, armor, grappling-hooks, towers on wheels for use against besieged cities, and gags for soldiers' mouths to prevent their talking in the ranks on the occasion of night attacks."

The peculiar characteristic of Dr. Giles which we have been illustrating and which we will venture to describe as a happy brusqueness is carried to an extreme which seems to us less commendable in the first two paragraphs of his book.

"The date of the beginning of all things has been nicely calculated by Chinese chronologers. There was first of all a period when nothing existed, though some enthusiasts have attempted to deal with a period antecedent even to that. Gradually Nothing took upon itself the form and limitations of Unity represented by a point at the centre of a circle. Thus there was a Great Monad, a First Cause, an Aura, a *Zeitgeist*, or whatever one may please to call it.

"After countless ages spent apparently in doing nothing, this Monad split into two principles, one active, the other passive; one positive, the other negative; light and darkness; male and female. The interaction of these two principles resulted in the production of all things, as we see them in the universe around us, 2,269,381 years ago. Such is the cosmogony of the Chinese in a nutshell."

Now this is admirably racy and lucid, and as Mr. Giles says, we have it "in a nutshell." The figures 2,269,381, especially the 1, are really delectable. But it makes very short work of the whole field of Chinese philosophy, for which surely something more than this can be said, and in which Western philosophers of eminence have seen the material of serious study. We tremble to think what havoc the professor would make should he get in amongst the metaphysics of the West. It is doubtful to us if the chronological entry 2,269,381 has any very reliable authority. The celestial scheme of metaphysics which derives all things from the five elements and the two principles and these from the Great Beginning, this again from the Unbeginning, never appeared to us to be a time-conception at all. To raise the question how long, is to show that we misunderstand it. We might as well ask in what year B. C. Evolution began. The process contemplated in

either case is proceeding, has been proceeding in all the past, will be in all the future. Tenses cling to our speech and may slip in unawares, they are really irrelevant. In short we must not take what Mr. Giles says here with the seriousness usually applied to questions of philosophy.

One statement in Professor Giles's book is certainly provocative of controversy and will be, we should anticipate, hotly contested. We think we quite see his point of view when he asserts that Confucius may be regarded as the "founder of Chinese literature." We must, of course, take the statement with the qualification he gives to it. "It is impossible to assert that before his time there was anything in the sense of what we understand by the term general literature." His meaning seems to be that what existed before Confucius's day was scattered, fugitive, and but for the sage's labors might have been lost. Yet most scholars, we think, in the face of the fact which Mr. Giles is careful to point out, that the *History*, the *Odes*, the *Changes* were all works anterior to Confucius, will refuse to speak of Confucius as the *founder* of his nation's literature, and none more passionately than the scholars of China. If these works are not to be considered as literature, neither is the sage's own work, the *Spring and Autumn Annals*. To call him founder would be in striking contradiction to his own words. "A transmitter, not a maker, I venture to compare myself with our old *Pêng*." The sage wrote little, but he edited much. He found in fact the Old Testament of the faith he established in the books to which he devoted so much attention. After all there is not much to dispute about save the fitness of the term *founder*. Confucius as he is, immeasurably the most august and sacred personage of all his race, made so by the homage of countless millions who have perpetuated his memory through at least eighty generations, is unquestionably one of the greatest of the sons of men.

> "The dead yet sceptred sovereigns who still rule,
> Our spirits from their urns."

He is also the most august figure in the literature of the nation; the very God, literally worshipped by its tens of thousands of scholars in the temples which rise to his honor all over the vast Empire, which in truth is ruled by him, while the *Hans*, the *Chins*, the *Sungs*, the *Mings*, the Mongol and the Manchu come and go. His lightest word putting an end to all controversy; his every maxim acknowledged a rule of conduct; he is the central figure, the presiding genius, the guiding star of statesmen, of moralists, of poets, of historians, and of critics who have built up the stately fabric of the nation's literature.

We should like to linger much longer over Professor Giles's most useful and entertaining book, but space forbids. Something we intended to say in respect of the method of classification adopted. With very great diffidence indeed we would give utterance to the doubt whether the plan of following the line of China's long list of dynasties was the wisest course. It is certainly very simple, and the chronological order has its value. But one would like to see the various stages in the na-

tion's literature defined by some strong characteristics which pertain to the literature itself, and marked by the names of the illustrious men who have produced it rather than by the names of the rulers under whom it was produced. One of the disadvantages of the present method is that *Poetry* appears and reappears some six or seven times sandwiched in amongst other kinds of literature; history, lexicography, encyclopædias, religious classics, the drama, the novel, are intermixed with each other under no principle of arrangement save the chronological one. Again the manner in which one form of literature has grown out of another in an orderly development does not appear under such a plan.

We are glad to see that Mr. Giles recognises the important contribution made to Chinese literature during the Mongol dynasty. In his *Gems* he wrote of that period "the imaginative power became visibly weaker, to decline later on to a still lower level of rule and line mediocrity." He had in mind when he wrote this, we suppose, the poetic productions of the Chinese, to which it is not altogether inappropriate. "Imaginative power" is hardly the endowment required for more serious work. It marks an advance in Mr. Giles's appreciation of that particular epoch that he now says, "Within the century covered by Mongol rule the Drama and the Novel may be said to have come into existence."

The large amount of poetry extending over every dynasty from the Odes downwards, and of which we are supplied with copious illustrations, is a noteworthy feature of the book. Many of the compositions in the *Odes* must be at least as old as the Psalms of David. They are very antique in style but simple in structure; one catches even through a translation a note of real song in them still. It is a common belief that *rhymed* verses are entirely a modern device, and in Greek and Latin metres "the jingling sound of like endings," as Chaucer calls them, is unknown. But rhyme is a usual feature of China's oldest Odes. The poems of *Chü yuen, T'ao Ch'ien, Tu Fu, Li Po*, and a host of other verse-makers are much admired by native scholars, all of whom are required to construct metres themselves in order to obtain their degree. The general level of excellence is high, but few rise above it to supreme merit. Their poetry is often elegant, delicate, exquisite. It lacks fire, passion, inspiration. The Chinese poets' muse is a lady of fashion and of dainty susceptibility, rather than a goddess from the skies. Sometimes it is a lady who is inspired (for even in *Chinese* literature women have a place) as in the following sent to the Emperor by the lady Pan on a silken fan:

"O fair white silk, fresh from the weaver's loom,
Clear as the frost, bright as the winter snow
See! friendship fashions out of thee a fan
Round as the round moon shines in heaven above,
At home, abroad, a close companion thou,
Stirring at every move the grateful gale.
And yet I fear, ah me! that autumn chills,
Cooling the dying summer's torrid rage,

Will see thee laid neglected on the shelf,
All thought of bygone days like thee bygone."

It appears to us that on the whole Mr. Giles has been singularly happy and felicitous in the rendering of his very numerous poetic extracts. Here and there, it is true the scansion is imperfect, but the translator is earnestly laboring to give a faithful rendering, and to do this and avoid doggerel is extremely difficult. We give three more extracts as good examples both of the poetry itself and of Mr. Giles's skill in translation.

The following poem gives "a perfect picture of a Buddhist retreat."

"The clear dawn creeps into the convent old,
The rising sun tips its tall trees with gold,
As, darkly, by a winding path I reach
Dhyana's hall, hidden midst fir and beach.
Around these hills sweet birds their pleasure take,
Man's heart as free from shadows as this lake.
Here worldly sounds are hushed as by a spell,
Save for the booming of the Altar bell."

In the following extract we have a striking picture of an imaginary transformation of a wife worthier than Lot's. The allusion is to the wife of a soldier "who spent all her time on a hill-top looking down the Yang Tzŭ, watching for her husband's return from the wars."

"'Where her husband she sought,'
By the river's long track,
Into stone she was wrought
And can never come back;
'Mid the wind and the rain-storm for ever and aye
She appeals to each home-comer passing that way."

The life of a palace favorite described by *Li Po* is very neatly rendered.

"Oh! the joy of youth spent
in a gold-fretted hall,
In the Crape-flower Pavilion,
the fairest of all,
My tresses for head-dress
with gay garlands girt,
Carnations arranged
o'er my jacket and skirt.
Then to wander away
in the soft-scented air,
And return by the side
of His Majesty's chair.
But the dance and the song
will be o'er by and by,
And we shall dislimn
like the rack in the sky."

Li Po's famous drinking song given by Mr. Giles has also been well translated by Dr. Martin.

It is impossible, owing to the different structure of the language, to copy the brevity of the Chinese poet. The following line—

"Flowers fade and fly, and flying fill the sky,"

consists in the original of the seven syllables—

"Hua hsieh hua fei fei man t'ien."

The translator absolutely required eleven, and this is about the proportion throughout. This circumstance alone renders it impossible to give the genuine ring of the original through translation.

So far as we can see, Mr. Giles has omitted to mention the voluminous and gifted critics Chin Shêng t'an and Mao Shêng San, writers who have done much to illustrate the merits of the drama and novel literature of their country. We seem to differ somewhat from him in our estimate of the relative merits of some books. In his high admiration of the *Liao Chai*, "*Strange Stories*," as he has named it in the excellent translation he has given us, we are at one with him. The stories may or may not be good stories, but who ever heard stories told in such a dainty manner? In Chinese phrase it is "a piece of fine silken embroidery from end to end." But we think he overrates the *Hung Lou Mêng*. It is good Pekinese, it has some good verses in it, one poem Mr. Giles translates (it had been translated before); it has some clever, not very decent, stories in it, but there is no plot, and it has scores of vapid pages. The entire story has been done into English by Mr. Jolly of the Chinese Customs Service. The *San Kuo Tzŭ Yen I* and the *Shui Hu* we doubt if Mr. Giles rates very highly. They are works of genius, and the former especially will repay study as the Iliad of China.

We cannot refrain from giving just one of the short stories from the end of Mr. Giles's book. As it is several centuries old, the author will not be suspected of satirising British generals in the Transvaal,

> "A general was hard pressed in battle and on the point of giving way, when suddenly a spirit soldier came to his rescue and enabled him to win a great victory.
>
> "Prostrating himself on the ground, he asked the spirit's name. 'I am the God of the Target,' replied the spirit. 'And how have I merited your godship's kind assistance?' inquired the general. 'I am grateful to you,' replied the spirit,' 'because in your days of practice you never once hit me.'"

Our readers shall have three proverbs from Mr. Giles's selection.

"A man thinks he knows, but a woman knows better."

"If fortune smiles,—who doesn't? If fortune doesn't,—who does?"

"One more good man on earth is better than an extra angel in heaven."

But enough. The work under review should satisfy every thoughtful reader, not merely that the Chinese people have sound literary instincts and fine literary taste, but that they really take high rank among literary races. From time im memorial they have given the highest place to the scholar. In mass and variety and average excellence of performance they are not easy to surpass.

They wrote books while Europe was savage; their bibliothecal treasures survived, under the Great First Emperor, the tremendous ordeal of fire, which has made the name of *Ch'in Ssŭ Huang* infamous to this day; they are still engaged in adding to the vast libraries they possess on every subject save science. In science they are yet children, though beginning to be earnest in its study. Religion, morals, politics, the arts, agriculture, history, poetry, the drama, fiction, lexicography, encyclopædias, travels,—they all continue to increase. In every new generation numbers are added to the already cumbersome muster-roll of names, all famous within the Middle Kingdom, not a few destined to be known beyond it, a great army which through more than three millenniums has held aloft the torch of knowledge to "China's Millions."

The Marquis Tsêng, himself a lineal descendant of one of China's greatest sages, many years ago said that, "China had much to learn from other nations; but she had also something to teach." He was right.

GEO. T. CANDLIN.

BOOK REVIEWS.

MAINE DE BIRAN. Ein Beitrag zur Geschichte der Metaphysik und der Psychologie des Willens. Von *Alfred Kühtmann*. Bremen: Verlag von Max Nössler. 1901. Pages, viii, 195.

Maine de Biran is a French philosopher whose importance during his life-time was far less than it is now. His philosophy, though not very striking and not a brilliant system, like the philosophies of Hegel, Schelling, Schopenhauer, etc., is sufficiently original to allow him a place in the development of human thought. Maine de Biran is of special interest because he forms what in France is something of an exception. Being neither materialistic nor skeptical nor positivistic, on the one hand, nor a partisan of the Roman Church on the other hand, he lays special stress upon the significance of the spirituality of man's existence, and thus stands aloof, forming a school of his own which is represented by Victor Cousin.

The name *Maine* was adopted by Biran for unknown reasons. His real name is François Pierre Gonthier de Biran; he was born Nov. 29th, 1766, at Bergerac, in the department of Dordogne, the son of a physician. He was educated at a college in Périgueux, and entered the Royal Life Guards at Paris, in 1785. During the Rebellion, he helped to defend Louis XVI. against the mob, and was slightly wounded in one of the riots. Together with the entire Life Guard, he was discharged at the request of the Parisians, and devoted himself for some time to military engineering. During the Revolution, he retired to his home in the country, and the hurricane of the September days passed by without doing him in his retired country-place any harm.

His acquaintance with mathematics led him to philosophy. He says that even in his earliest childhood he used to be astonished at his own existence, and he was instinctively induced to contemplate his own self in order to learn how to live and how to be himself. In his *Journal Intime* he depicts the conditions of his soul, which indicate great sensibility and little power of resistance. His weak body, frequently visited by sickness, prevented him from making use of his faculties. He lived in himself and observed the changes which took place in his own ego. "I often," he says in his diary, "think I never was possessed of the same state of mind on two consecutive days, not even on the same day in the morning and the

evening."[1] Self-observation thus led him to search for the nucleus of his own being, of that something which constitutes the cause of all inner and outer modifications; and his answer consists in an anticipation of Schopenhauer's doctrine of the will in his doctrine of the *effort voulu*. In those days he wrote: "It is highly desirable that some one capable of self-observation should analyse the will in a way in which Condillac analysed the faculties of the mind."

When, after the Revolution, order was restored, Maine de Biran was appointed administrator of the department of Dordogne. In 1797 he was elected as one of the five hundred members of the Council, whose president, General Pichegru, conspired for a re-establishment of the royal government. Biran, although a Legitimist, lacked sufficient initiative to take part in active propaganda for the Royalists. When they failed he was simply removed from the Council, while Pichegru, Carnot, and other conspirators were condemned to deportation.

In 1798, Biran married Louise Fournier, the divorced wife of Monsieur DeCluzeau. The marriage was extremely happy, but short; Madame Biran died in 1803, leaving two daughters and one son to the bereft widower, who began to suffer more than ever before from melancholy.

In the year 1801, Biran came for the first time before the literary public with an essay written in reply to a prize question proposed by the Institute on the influence of habit upon our mental faculties. It is a thoughtful composition, though out of date at present. Even here he insists upon "effort," or willed motion, as the basis of perception and other mental faculties. He spoke of "ideological investigations," and looked upon "ideology" as a specific philosophical method, a word which was adopted by a number of his own followers; and we may mention that Napoleon I., then Consul, had a special dislike for the ideologists.

The danger of the Legitimist party having passed away, in 1805 Napoleon made him member of the Prefecture, and in 1806 Vice-Prefect.

In a narrow circle at Auteuil, Maine de Biran unfolded his philosophical theories in lectures and evening discussions. In his essays he opposed the phenomenalism of Berkeley and the skepticism of Hume, proposing in their place a philosophy which would make personality paramount. He contrasted the organic force of desire with the hyper-organic faculty of the will; and thereby endeavored to deepen and add to the current philosophy of his day, represented in the materialistic writings of Condillac.

In 1809 he was elected delegate for the Legitimist party, but he felt out of place in the legislature, leading a too intensely inner life to be fit for an orator or a fighter. In a medical society he read a paper (published by Cousin) on "sleep, dreams, and somnambulism," in which he insisted on the active nature of the ego, protesting against the impossibility of purely passive conditions of the soul. He defined sleep as the momentary suspension of the will, as the power of effort, and

---

[1] *Journal Intime* of 1794, page 122.

explained somnambulism by the theory of a free communication between the muscles and the brain, to the exclusion of the will, through the instrumentality of the sympathetic nervous system,—a theory which was adopted by Schopenhauer.

In 1806 the Prussian Academy of Berlin proposed a prize question which interested Biran, and induced him to rewrite in answer to it a former article of his on the subject. The question reads: "Are there inner immediate apperceptions, and how is inner perception distinguished from outer cognition? What difference is there between outer cognition and sensation, and feeling? What are the relations of these acts or conditions of the soul to concepts and ideas?" Biran was honored with the second prize; he had not expected to be considered at all, but was greatly satisfied with the way in which the president of the Academy, Professor Ancillon, recognised the merit of his memoir, saying that he and not his rival ought to have received the first prize, because Biran's essay "contained original, new, and valuable ideas, entering boldly into the labyrinth of the ego, and tracing with a firm hand the mazes of thought-association, thus rendering the essay a monument of French philosophy which reminded one of its best times, the days of Descartes and Malebranche."

In 1810 Biran answered the prize question of the Academy of Copenhagen, and he came out victorious. It was an essay on the interaction between psychology and physics, in which he declared that physiological experiences threw no light upon the facts of consciousness; rather, on the contrary, the nature of consciousness is concealed by them in that physiological functions, as Cabanis says, are regarded as causes of intellectual phenomena, or, as Bonnet says, they are represented as their natural signs and symbols; or, finally, as Bichat assumes, the question is regarded as solved with the assumption of an animal sensibility and contractility. Psychological observations, however, Biran insisted, can very well be used for the purpose of explaining a great number of bodily functions,—a theory which he explained in a series of instances in which psychical powers, especially the will, obviously influence physiological conditions.

When in 1813, after the battle of Leipzig, Napoleon demanded a conscription of 300,000 soldiers, and the legislative body appointed a commission of five Royalist members, demanding of the Emperor a guarantee of the liberties of the people, Maine de Biran was one of the five. The Emperor was indignant, and dissolved the legislative body. Biran retired to his country-seat, and did not return to Paris until Ludwig XVIII. had been installed king of France, May 3rd, 1814. He was elected a Deputy of the Chamber, and during the hundred days of Napoleon's return to power escaped imprisonment and death by a hair's breadth. After Napoleon's final downfall he devoted himself for the rest of his life to school-reform and pedagogy, but the times were too restless, and his political convictions were too moderate for the ultra-Royalist tendencies of the day. He approved of the conciliatory policy of the Duke of Richelieu, approving the bill of amnesty for the regicides and the bill against the misuse of the liberty of the press. He died on

July 20th, 1824, having been spared becoming a witness of the growth of Royalism under Charles X., successor to Ludwig XVIII. His remains were interred in the cemetery of Père.Lachaise.

Biran's philosophical works were edited by Cousin, and exercised a powerful influence upon those Frenchmen who were satisfied neither by the sensualistic and materialistic schools nor the other extreme of the Church. He exercised a powerful influence on Schopenhauer, and may be regarded as the intermediate link between Condillac and spiritualism. The author of the present monograph, Alfred Kühtmann, selects the essential points of Biran's philosophy, describing the genesis of his philosophy in its relations to prior philosophers, pointing out at the same time similar theories among modern thinkers, such as Herbert Spencer, Alexander Bain, Schopenhauer, and Wilhelm Wundt. He might have added that Biran failed in his main ideal of philosophical thought. He nowhere analysed the nature of the will and his conception of the *effort voulu* remains a hazy abstraction. If he had taken one step further in the investigation of the will, he might have come to the conclusion that each definite *effort voulu* derives its character from a definite situation, given by antecedents and surrounding conditions, and he might then have modified his view that psychology is not benefited by physiology. P. C.

René Descartes: Meditationes de Prima Philosophia. Nach der Pariser Originalausgabe und der ersten französischen Uebersetzung mit Anmerkungen neu herausgegeben. Von *Dr. C. Güttler*, a. o. Professor in the University of Munich. Munich: C. H. Beck'sche Verlagsbuchhandlung. 1901. Pages, iv, 250.

Students of philosophy are greatly indebted to Dr. C. Güttler, professor in the University of Munich, for the care and exactitude which he has bestowed upon his comparative edition of the Latin and French texts of Descartes's *Meditations*. While lecturing upon this great work the necessity of an adequate edition made itself strongly felt. Important matter is lacking in all the editions now in use, and by none of them was the opportunity afforded of comparing the Latin original with the first French translation. Furthermore, the original edition of 1641 had become very scarce, and was not to be found in any of the great German libraries. Dr. Güttler was accordingly compelled to make an accurate transcription of the Latin text of the copy in the National Library at Paris, by the side of which he has placed a reprint of the first French translation in modern orthography. Dr. Güttler has supplied to his work, which is typographically clear and attractive, a brief but excellent historical introduction, and he has also had the matter contained on the title-pages of the editions of 1641 and 1647 reprinted for his book. It is, in view of the rareness of these works, too bad that the idea did not occur to him of having photographic reproductions made of these title-pages. The author has added annotations to each Meditation, tables of variants, etc. Descartes's letter

of dedication to the Sorbonne, his preface to the reader, etc., are also contained in this volume as distinguished from other existing editions. *μ.*

DIX ANNÉES DE PHILOSOPHIE: ÉTUDES CRITIQUES SUR LES PRINCIPAUX TRAVAUX PUBLIÉS DE 1891 A 1900. Par *Lucien Arréat*. Paris: Félix Alcan, Éditeur, 108 Boulevard Saint-Germain. 1901. Pages, 184. Price, 2 francs 50.

The readers of *The Monist* who have followed the reports upon the philosophical literature of France by M. Lucien Arréat for the eleven years since this magazine was first established will be pleased to learn that our distinguished French critic has recently written a small work in which he has collected and condensed his critical reflexions upon the philosophy of the last decade. In a brief preface, M. Arréat defines clearly what he understands by philosophy; his view is in many points in harmony with the doctrines expounded in *The Monist;* he conceives philosophy to be the complement of science,—an essential constituent of science. Science is made up of *empirical laws* and *rational hypotheses*. Whatever is conjectural in science, whatever is non-experiential, partakes of a philosophical character; science always culminates in philosophy. On the basis of this idea, he considers the collateral scientific and metaphysical development of sociology, psychology, esthetics, morals, and religion. Concise and economic in the extreme, his expositions give the gist of all that has been thought in France upon these great subjects, and furnish in each department references to the best and soundest books in which the further study and investigation of these departments may be prosecuted. M. Arréat, by his simple yet elegant analyses, has made some of the most difficult theories of modern French thought intelligible, and the reading world is under deep obligations to him for the pains which he has taken for its enlightenment. *μ.*

L'ANNÉE BIOLOGIQUE. Comptes rendus annuels des travaux de biologie générale publiés sous la direction de Yves Delage, Professeur a la Sorbonne. Avec la collaboration d'un Comité de Rédacteurs. Quatrième Année 1898. Paris: Schleicher Frères, Éditeurs, 15, rue des Saints-Pères. 1900. Pages, xxxi, 847.

The present number of the *Année biologique* is the fourth volume of this monumental index of biological literature, and carries the compilation to the end of the year 1898. Its size is about the same as that for the year 1897, so that it would seem from the respective magnitudes of the two reports that literary production in the field of biological inquiry, prodigious as it is, had not appreciably increased over the year 1897. The sub-headings are twenty in number, running from the "Cell," "Fecundation," "Parthenogenesis," etc., through "Morphology," "Heredity," "Variation," and the "Origin of Species," to "Nervous Systems and Mental Functions," "General Theories," etc. The collaborators of this vast compilation number fifty-eight, and represent all the countries of the world engaged in

biological research. The book is an indispensable one to workers in biology, and scientific libraries should see to it that it is placed within the reach of students.

LA SUGGESTIBILITÉ. Par *Alfred Binet*, Docteur ès sciences, Directeur du laboratoire de psychologie physiologique de la Sorbonne (Hautes-Études). Avec 32 figures et 2 planches hors texte. Paris: Schleicher Frères, Éditeurs, 15, rue des Saints-Pères. 1900. Pages, 391.

M. Binet has already contributed a volume on intellectual fatigue to the Library of Pedagogy and Psychology published in Paris by Schleicher Frères. His present second volume on *Suggestibility* is a very important one, from both the psychological and the educational point of view. As for psychology, he has given an historical and technical *résumé* of the experimental work that has been done in the field of suggestion, and has added to the means already at our disposal new methods of his own. As for pedagogy, the material contained in the present volume is of a character that should be carefully studied by every scientific educator. The purpose of M. Binet's work is to discover tests of the relative suggestibility of individuals without recourse to hypnotism and similar methods. The importance of substituting normal suggestion for hypnotic suggestion cannot be underrated. Although with M. Binet one may be disposed to regard hypnotism as a method of first rank for the study of mental pathology, it is incontestable that the hypnotic method, which in a measure enthralls its subject, has many grave drawbacks: it is not successful with all persons; it provokes serious and sometimes painful disorders in others; and it usually imposes upon its subjects habits of automatism and servility that have led certain authors, among them notably Wundt, to pronounce the hypnotic method as immoral. Hypnotism has been accordingly forbidden in the schools and the armies of Europe, and has been relegated entirely to the clinic.

Suggestion, although often confounded with the method of hypnotism, is essentially different. It does not produce automatic obedience on the part of the subject, nor suspend his will and critical judgment. The methods which M. Binet has described in the present work have, in fact, no practical connexion with hypnotism, but are essentially *pedagogic in character*. They have been applied by him time and again in the schools under the watchful eyes of teachers and instructors, without provoking more emotion or exaltation than ordinary dictations and exercises. The experiments have been of advantage even to the pupils themselves, in directing their attention to sources of error and in cultivating their attention and independence of judgment.

We cannot go into the details of the methods of M. Binet and of his American colleagues who are working in the same direction; suffice it to say that he has given in his work, besides the history of his subject, a full description of his experiments in connexion with the suggestion of directive ideas, reproduced his "interrogatories," and added his reflexions and results on the subjects of imitation, sub-

conscious movements, etc. The upshot of his investigations is that we are without question now in the possession of tests capable of measuring individual suggestibility without recourse to hypnotism, and that consequently a classification of individuals in this regard is possible. The work is written with the lucidity for which M. Binet's expositions have always been known. μ.

ŒUVRES PHILOSOPHIQUES DE LEIBNITZ. Avec une introduction et des notes. Par *Paul Janet*, Membre de l'Institut; Professeur à la Faculté des lettres de l'Université de Paris. Deuxième édition revue et augmentée. Paris: Félix Alcan, 108 Boulevard Saint-Germain. 1900. Pages, I., xxviii, 820; II., 603. Price, 2 vols., 20 francs.

M. Paul Janet died in November, 1899, just as the second edition of the present excellent edition of Leibnitz's philosophical works was nearing completion, and M. Boirac, rector of the Academy of Grenoble, was deputed by the publisher to complete M. Janet's labors, especially to supply a bibliography. It is not generally known that Leibnitz published only a few treatises during his life-time, and that the best part of his works appeared posthumously,—a fact which clearly appears from M. Boirac's bibliography. According to Bodemann there were in 1889 still 1500 unpublished letters by Leibnitz in the Royal Library at Hanover. A brief but admirable introduction on the philosophy of Leibnitz has been written by M. Janet, who has also interpersed the text with critical and explanatory annotations. The two volumes contain the *New Essays on the Human Understanding*, the *Theodicy*, many minor treatises, and much of Leibnitz's philosophical correspondence. μ.

THE PHILOSOPHY OF RELIGION IN ENGLAND AND AMERICA. By *Alfred Caldecott*, D. D., Professor of Logic and Mental Philosophy in King's College, London; formerly Fellow and Dean of St. John's College, Cambridge. New York: The Macmillan Co. 1901. Pages, xvi., 434. Price, $2.50.

In view of the fact that the literature of the philosophy of religion is composed of many different expositions, all of which are conceived by their authors to be a definitive solution of the problem at issue, it has seemed fitting to Dr. Caldecott that a conspectus of what has been done all over the field should be presented for the information of the benighted students of this department of speculative inquiry. Further, from a therapeutic point of view, the author believes that "a survey of the past and a comparison of the methods which compete for our acceptance in the present is the remedy needed by the tendency to agnosticism on the one hand, and the apparently chaotic advocacy of incompatible systems on the other;" and such a survey it is the aim of his volume to supply. In doing this, he has not gone beyond the limits of the literature of Great Britain and America, and has begun with the period following the Reformation. He has classified the theistic philosophies as belonging to the following thirteen types: (1) Intuitional Theism; (2) Demon-

strative Theism (*A posteriori*): The Ontological Argument; (3) Transcendental Idealism (Speculative); (4) Ethical Theism (Rationalist); (5) Combined Speculative and Ethical Rationalism; (6) Social Theism; (7) Theism of Feeling; (8) Theism of Will; (9) Personalism; (10) Intuitivism, or Mysticism; (11) Composite Method; (12) Some Quasi-Theisms; and (13) Resort to Revelation. He finds that nearly every one of these types has secured its advocates in Great Britain and Ireland, not to speak of America; that natural theology has been extremely varied throughout the entire period under discussion, and has remained varied at its close; and that the outcome of English theological speculation during the time in question has been, not a single theism, but a complex literature,—conclusions concerning which scarcely any person would have entertained doubts, even before perusing Dr. Caldecott's work. After the introductory discussions, each chapter of the book takes up in succession the various authors represented and expounds their doctrines in connexion with their chief works. The exposition is accordingly of a slightly disconnected character, and scarcely enough attention has been paid to American thought to justify its inclusion on the title-page; in fact, the author's acquaintance with American theistic philosophy seems to be extremely limited. Otherwise, the volume is useful for the digests of systems that it contains. *μ.*

BRAHMAN: A STUDY IN THE HISTORY OF INDIAN PHILOSOPHY. By *Hervey DeWitt Griswold*, M. A. A Dissertation presented to the Faculty of Cornell University for the Degree of Doctor of Philosophy. New York: The Macmillan Company. 1900. Pages, viii, 89.

THE PHILOSOPHY OF FRIEDRICH NIETZSCHE. By *Grace Neal Dolson*, A. B., Ph. D., Formerly Fellow of Cornell University, and of the Association of Collegiate Alumnæ. New York: The Macmillan Company. 1901. Pages, v, 110.

FRIEDRICH NIETZSCHE, DER PHILOSOPH UND DER PROPHET. Von *Dr. Otto Stock*, Privatdozenten der Philosophie in the University of Griefswald. Brunswick: George Westermann. 1901. Pages, 62.

The first two of the books listed at the head of this notice belong to the series of Cornell Studies in Philosophy,—a series consisting in most part of printed dissertations presented to the faculty of Cornell University for the degree of Doctor of Philosophy. The first monograph is a philosophical and historical study of the doctrine of Brahman, the central conception of Indian metaphysical thought. The monograph is a typical doctor's dissertation, being a species of condensed report of Deussen and Max Müller. The student may, however, obtain a clear conception of the general upshot of the doctrine of Brahman from the little work.

The second monograph of the Cornell Philosophical Series aims "to give a practical exposition of Nietzsche's writings in so far as they are concerned with philosophy." Nietzsche is becoming a favorite subject of treatment with philosophers in Germany, and with reason. He has countless imitators and admirers. No modern German writer of serious literature is so widely read as Nietzsche. An English

translation of his works is now being published by Macmillan, and some of his effusions have actually been set to music. His wonderful success has accordingly lured the philosophical critics from their lairs, and every effort is being put forth by them to explain, analyse, and refute his preachings. So eminent a professional philosopher as Alois Riehl has made him the subject of a critical study, while the well-known French book of Lichtenberger on Nietzsche is already familiar to readers of *The Monist*, where in July, 1899, two critical studies of Nietzsche's case appeared. Miss Grace Neal Dolson has now rendered for English readers a service similar to that of Riehl and Lichtenberger, having discussed in the present volume Nietzsche's case in considerable detail, giving his biography, a statement of the general nature of his system and of his relation to other writers, and tracing his development through its æsthetic, intellectual, and ethical periods. The bibliography which she has added to her work is quite complete and will be a valuable help to students of the great apostle of egoism.

The work on Nietzsche by Dr. Otto Stock, also listed at the head of this notice, is a candid and sympathetic examination of Nietzsche's claims to recognition. Dr. Stock believes that the destiny of Nietzsche is to be that of Schopenhauer, who at the beginning was wilfully neglected by professional philosophers, but afterwards, to their sorrow, took rank above them, both in the popular and official estimate, as an exponent of the genuine thought, or if we may so express it, malady, of the day. His little brochure, which will be appreciated by those who read German, is rendered additionally valuable by a photograph which is regarded as the best and most characteristic existing portrait of Nietzsche. *μ.*

POLITICS AND THE MORAL LAW. By *Gustav Ruemelin*, Late Chancellor of the University of Tübingen. Translated from the German by *Rudolf Tombo*, Jr., Ph. D., Columbia University. Edited with an Introduction and Notes by *Frederick W. Holls*, D. C. L., Author of "The Peace Conference at the Hague and Its Bearings on International Law and Policy," etc. New York: The Macmillan Co. London: Macmillan & Co., Ltd. 1901. Pages, 125. Price, 75 cents.

Gustav Ruemelin, born 1815 died 1889, was a distinguished south German publicist, Professor of Statistics and Psychology in Tübingen, and in 1870 Chancellor of the University. His Shakespearean studies and his *Essays and Addresses* are justly famed in Germany, and from the last-named of these works the present little essay on *Politics and the Moral Law* has been taken. Mr. Frederick W. Holls, secretary of the United States delegation to the recent Peace Conference at the Hague, who has written the introduction to Mr. Tombo's translation, regards the publication of Chancellor Reumelin's address as very timely in view of the grave problems in international ethics now confronting the peoples of America and Europe, and pronounces it to be "a notable and important contribution to a branch of the science of ethics of which the literature in the English language is admittedly

meager." And we may say for our part that it certainly contains lofty and sensible utterances, and will contribute much to the realisation of the noble ideal for which it has been translated. μ.

A TREATISE CONCERNING THE PRINCIPLES OF HUMAN KNOWLEDGE. By *George Berkeley*. Reprint Edition. Chicago: The Open Court Publishing Company. London Agents: Kegan Paul, Trench, Trübner & Co., Ltd. 1901. Pages, xv, 128. Price, paper, 25 cents (1s. 6d.).

THREE DIALOGUES BETWEEN HYLAS AND PHILONOUS. By *George Berkeley*. Reprint Edition. Chicago: The Open Court Publishing Company. London Agents: Kegan Paul, Trench, Trübner & Co., Ltd. 1901. Pages, 136. Price, paper, 25 cents (1s. 6d.).

AN ENQUIRY CONCERNING THE PRINCIPLES OF MORALS. By *David Hume*. Reprinted from the Edition of 1777. Chicago: The Open Court Publishing Company. London Agents: Kegan Paul, Trench, Trübner & Co., Ltd. 1900. Pages, 196. Price, paper, 25 cents (1s. 6d.).

Three numbers have recently been added to the new series of Philosophical Classics in the Religion of Science Library, published by the Open Court Publishing Company. They are reprints of Hume's *Enquiry Concerning the Principles of Morals*, Berkeley's *Treatise Concerning the Principles of Human Knowledge*, and his *Three Dialogues Between Hylas and Philonous*. They are printed on good paper and in large, clear type, and each volume contains a portrait of its author, these being in the present case Sir Joshua Reynolds' Hume, Smibert's Berkeley, and Cooke's Berkeley. It is unnecessary to dwell on the importance of these books. They should be in the hands of all students of philosophy, who will now be able at a very slight cost to acquire a good working library of the originals as a basis for their work in the history of philosophy,—and this has been the publishers' purpose in issuing them. Announcements are made in the same series, of Kant's *Prolegomena*, Anselm's *Proslogion* and *Cur deus homo*, and Leibnitz's *Metaphysics* and *Monadology*, as well as selections from Locke, Malebranche, Fichte, Hegel, Schopenhauer, Comte, etc., etc. Descartes's *Method* and Hume's *Enquiry Concerning Human Understanding* have already appeared.

THE CLASSICAL HERITAGE OF THE MIDDLE AGES. By *Henry Osborn Taylor*, Sometime Lecturer in Literature at Columbia University. New York: The Columbia University Press. The Macmillan Company, Agents, 66 Fifth Ave. 1901. Pages, xv, 400. Price, $1.75.

This work treats of the most important epoch of history for an understanding of modern times,—an epoch which is sadly neglected in both reading and collegiate study, namely the transition from the classical to the mediæval. "It seeks to follow the changes undergone by classic thought, letters, and art, on their way to form part of the intellectual development of the Middle Ages, and to show how pagan tastes and ideals gave place to the ideals of Christianity and to Chris-

tian sentiments." Beginning with classic Greece and Rome, Mr. Taylor's argument reaches forward to the Middle Ages, but centres mainly in the period extending from the fourth to the seventh century. One reads here of how the antique man became a mediæval Christian; of how ancient law, letters, and language, ancient ideals, ethics, religion, art, and architecture, were transformed into mediæval; of the origin of Monasticism, etc., etc. The whole is interesting and full of light; it has been written with insight and with love, and constitutes a welcome addition to the general literature of history. *μ.*

DIE MECHANIK IN IHRER ENTWICKELUNG, HISTORISCH-KRITISCH DARGESTELLT. Von *Dr. Ernst Mach*, Professor in the University of Vienna. Vierte Auflage. Leipsic: F. A. Brockhaus. 1901. Pages, xiv, 550. Price, 9 marks.

Simultaneously with the receipt of a review copy of the present fourth edition of Dr. Ernst Mach's now celebrated book on *Mechanics* comes the announcement of a French translation of the same work, of the preparation of a second edition of the English translation, and of a Russian translation of his epistemological essays, many of which have already appeared in *The Monist* and *The Open Court*, and were subsequently incorporated in Dr. Mach's *Popular Scientific Lectures*. It would seem from these indications that the views which Dr. Mach has enunciated on the theory of science are fast gaining ground and everywhere giving evidence of their soundness and acceptability. Recent investigations in the history of logic and mechanics have led him to add considerably to the later editions of his work, but these additions have been rather in the nature of detailed matter corroborating his former position than alterations of his views. Dr. Mach again expresses, in the preface to the present fourth edition of his work, his belief that in the main he has correctly sketched the transformations which the principles of mechanics have undergone, and in a measure adumbrated the probable course which this development is to take in the immediate future. *ρ.*

NEUE THEORIE DES RAUMES UND DER ZEIT. Die Grundbegriffe einer Metageometrie. Von *Dr. Melchior Palágyi*. Leipzig: Verlag von Wilhelm Engelmann. 1901. Pages, xi, 48. Price, 0.80 mark.

Dr. Melchior Palágyi is an Hungarian philosopher, and author of an epistemological treatise entitled *Az ése törvénye*, Anglice, *The Law of the Intellect*. He has written the present brochure in order to communicate to the German reading world his views of the theory of knowledge, which he believes offer a definitive solution of some of the most perplexing problems of philosophy.

The countless contradictions in which the human reason becomes involved in its operations are due, in Dr. Palágyi's opinion, to the circumstance that all facts when represented in human judgments, although single in reality, assume a dual form. A judgment involves a subject and a predicate; *two* concepts are needed to express *one* fact. Just as we perceive objects visually by means of two retinal images, so by the union of two ideas are judgments concerning single facts formed.

But whereas the duality of our retinal images leads only in exceptional and abnormal cases to a doubling of sight, the duality of our concepts frequently leads to a "swimming" of our intellectual eye. The source of error here is the substitution of a verbal symbol for a fact, and consequently the apparent doubling of the fact. Now, the current doctrines of space and time have especially suffered from this new species of intellectual squint, both realities being considered as two independent forms of intuition whereas in nature time and space exist together. In reality space and time are one, only in conception are they two.

The geometrical principles of duality and reciprocity used in projective geometry form the starting-point of Dr. Palágyi's speculations. His theory of space and time establishes a principle of reciprocity between space and time, of which the doctrine of reciprocity in modern geometry is to be considered a special case. Dr. Palágyi's reasoning is easy to follow, but the functional dependence of time on space and consequently the doctrine that time and space form an essential unity, can hardly be said to be original with him. It has been held by others. *μ.*

GRAZIE UND GRAZIEN IN DER DEUTSCHEN LITTERATUR DES 18. JAHRHUNDERTS. Von *Dr. Frank Pomezny*. Herausgegeben von *Dr. Bernhard Seuffert*, Professor in the University of Graz. Hamburg and Leipsic: Verlag von Leopold Voss. 1900. Pages, vi, 247. Price, 7 Marks.

The present work has some interest from a literary and scientific point of view, following, as it does, the history of the notion of grace from its inception in antiquity to its formal development in the German literature of the eighteenth century. It is a specimen of what can be done in the way of a technical treatment of a minor notion as it finds its incarnation in minor minds. To the scientific public at large it will hardly be of interest to learn the part which the notion of grace played in the writings of Hagedorn, Pyra, Gleim, Uz, and Götz; and the editor of Dr. Pomezny's essay has done well to emphasise the psychological side of the investigation rather than the literary. The author of the treatise, which was presented as a doctor's dissertation at the University of Graz, was a promising young man who shuffled off this mortal coil at the untimely age of twenty-six years. His teacher, Professor Seuffert, edited the work after the author's death. *μ.*

DER GESANG DER VÖGEL, SEINE ANATOMISCHEN UND BIOLOGISCHEN GRUNDLAGEN. Von *Dr. Valentin Häcker*, a. o. Professor in Freiburg i. Br. Jena: Verlag von Gustav Fischer. 1900. Pages, vi, 102. Price, 3 Marks.

The instincts of animals have received a large share of attention from biologists in late years, and by such works as Groos's *Play of Animals*, which we now have in an English translation, the subject has been brought even to the notice of the educated public at large. Recent discussions have, however, in Dr. Häcker's opinion, sufficiently proved the value of the results of direct observation as compared with experiment and theory; and he accordingly deems himself justified in approaching the subject empirically, by submitting to systematic, comparative, and

developmental treatment, the results of his personal observations on a special class of instincts. Selecting for this purpose the singing instincts of birds, of which he has been for twenty years a close observer, he has endeavored in the present essay to investigate the relations which these instincts bear to others and to their various reflex accompaniments, offering thus in a limited domain a specimen of a biological investigation complete in every respect. While originally intending to treat his subject from a purely biological point of view, the difficulties presented by certain special questions, notably the problem of sexual dimorphism, induced him to present an introductory discussion of the anatomy of the vocal apparatus, which will be doubly welcome to students by reason of the general inaccessibility of information on this subject. In the remaining chapters he discusses the current theories of biologists and develops his own, particularly in connexion with the phenomena of courtship. μ.

DAS BEWUSSTSEIN DER AUSSENWELT. GRUNDLEGUNG ZU EINER ERKENNTNISTHEORIE. Von *Dr. Rudolf Eisler*. Leipzig: Verlag der Dürr'schen Buchhandlung. 1901. Pages, 106. Price, 2 Marks.

Dr. Eisler discusses the problems of the reality of the external world and its relation to consciousness. He starts with perception as the basis of all knowledge, discusses in the second chapter the object of perception, then the category of thingishness, which as he states ought to be regarded as a reflex of our egoity. Things are, as it were, a development of the aboriginal category of thingishness (page 64, the validity of the categories); in the same sense he goes over the field of substantiality and causality, discussing their relation to the idea of inherence. In Chapter VII. our author declares that the strict and logical definition of consciousness is impossible. The contents of consciousness cannot be described, it must be experienced (page 82). Existence is defined as something which denotes not an empty word but has reference to an object. It is thus contrasted with anything which appears as a mere word, an empty picture of the imagination (page 87). He concludes that the results of his investigations are a critical realism and a positivism —a view which interconnects the facts of external experience with internal psychological conditions. But he allows that metaphysics may be the final aim of philosophy, although it cannot be tolerated in the several sciences. P. C.

NOTE.

Professor Mach's article on *Physiological, as Distinguished from Geometrical, Space*, published in *The Monist* for April, 1901, will be followed by another article on *The Psychology and Natural Development of Geometry*, in which our distinguished contributor will treat the physical elements of experience as being not less indispensable for the construction of geometry than the physiological elements. A third article is intended to discuss *The Relations Between Geometry and Pure Arithmetic*.

A Psychology for Beginners

AN OUTLINE SKETCH.

By HIRAM M. STANLEY,

Member of the American Psychological Association, author of the "Evolutionary Psychology of Feeling" and "Essays on Literary Art." Pages, 44. Boards. Price, 40 cents (2s.).

A Terse Statement of Psychological Facts

Designed to give to beginners a direct insight into the subject and familiarity with its methods. The student is told as little as possible, but is allowed to learn for himself by simple observation and experiment.

"A capital little primer . . . . printed in bold type . . . . with twenty-six blank pages of stout paper for the scholar's notes and exercises . . . . Treats the most elementary principles of psychology . . . . in the semi-conversational style that suggests the practised teacher." *Literary World*, London.

"Invaluable to teachers."—*Canadian Teacher.*

History of Modern Philosophy in France

BY

LUCIEN LÉVY-BRUHL

Maître de Conférence in the Sorbonne. Professor in the École Libre des Sciences Politiques.

With twenty-three photogravure and half-tone portraits of French philosophers, from rare and classical sources. Also a Bibliography of Modern French Philosophy. Handsomely bound, printed on antique paper, with wide margins. Pp., 500. 8vo. Price, $3.00 (12s.).

"A more attractive book than this it has seldom been our pleasure to read. Paper, type, binding, and especially the portraits, contribute to make a sumptuous volume. But its mechanical perfection is the smallest element of its value. Any one who expects to find this either a dry or an inexact or an incomplete book will be most agreeably disappointed. To every one of competent philosophical knowledge or curiosity, it will prove both instructive and entertaining."—*The Methodist Review.*

"The portraits are admirably reproduced."—*Literature.*

"It is a remarkably handsome volume. . . . The illustrations are truly masterpieces of art."—*Chicago Israelite.*

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co.

YEARLY SUBSCRIPTIONS
$3 or 12 s. post-free

MIND

SINGLE NUMBERS
Price, $1.00

(NEW SERIES)

A QUARTERLY REVIEW OF PSYCHOLOGY AND PHILOSOPHY

Edited by G. F. STOUT.

With the co-operation of

PROF. H. SIDGWICK, PROF. E. CAIRD, DR. WARD (England), and PROF. E. B. TITCHENER (U. S. A.)

MIND is the only periodical which represents the interests of Psychology and Philosophy in England. Its general aim is to afford a vehicle for the expression of all that is most original and valuable in current English thought, without distinction of School or Department of Philosophical Inquiry.

Each number contains one hundred and forty-four pages. Of these nearly one hundred are occupied by original articles. Under the head *Discussions* follow short papers on current topics of controversy, suggested for the most part by articles or reviews which have previously appeared in MIND. In each number at least three books are selected to receive full *Critical Notice*, by experts in the subject of which they treat; while under the head **New Books** is given a general account of the aim and contents of all recently published works of any importance which come within the scope of the *Review*. Between twenty and thirty books receive notice in each issue. There also appears, under the head of **Philosophical Periodicals,** a list of the titles and an indication of the contents of the articles in the leading philosophical journals, English and Foreign, with a fuller notice of those which appear to be of special importance. **Notes** on recent researches and current news conclude each number.

All literary communications from Europe should be addressed to G. F. Stout, University, Aberdeen, Scotland. Unaccepted Manuscripts cannot be returned unless stamps are inclosed for postage.

Correspondence from American readers relating to advertising and subscriptions should be addressed to G. E. Stechert, 9 East Sixteenth Street, New York, all other communications to Professor E. B. Titchener, Cornell University, Ithaca, N. Y.

Among recent contributors to MIND may be mentioned: Professor Adamson, B. Bosanquet, F. H. Bradley, Professor Baldwin, Francis Galton, Shadworth H. Hodgson, L. T. Hobhouse, W. E. Johnson, Henry Rutgers Marshall, Dr. Colley March, Prof. J. S. Mackenzie, J. E. McTaggart, Rev. H. Rashdall, Dr. Rivers, Hon. B. A. W. Russell, F. C. S. Schiller, Alfred Sidgwick, Prof. H. Sidgwick, Professor Sorley, A. F. Shand, Prof. W. G. Smith, Prof. E. B. Titchener, Prof. James Ward, Dr. Wallaschek and Dr. Westermarck.

Published in Europe by

WILLIAMS AND NORGATE.

EDINBURGH: 20, South Frederick Street. LONDON: 14, Henrietta Street, Covent Garden. OXFORD: 7, Broad Street.

Sole Agent in America: GUSTAV E. STECHERT,

9 East Sixteenth Street, New York.

THE PHYSICAL REVIEW.

A JOURNAL OF EXPERIMENTAL AND THEORETICAL PHYSICS.

CONDUCTED BY

EDWARD L. NICHOLS, ERNEST MERRITT, and FREDERICK BEDELL.

Two volumes of THE PHYSICAL REVIEW are published annually, these volumes beginning in July and January, respectively, and containing at least five numbers each. The price of subscription is two dollars and fifty cents a volume (five dollars a year), or fifty cents a number. Subscriptions should be sent to the publishers, THE MACMILLAN COMPANY, *66 Fifth Ave., New York;* Messrs. MACMILLAN & CO., LTD., *London;* or to Messrs. MAYER & MUELLER, *Berlin.*

Previous to Volume V. (July-December, 1897), THE PHYSICAL REVIEW was published in annual volumes, each containing six bi-monthly numbers, beginning with the July–August number, 1893. These may be obtained from the publishers at the former subscription price, three dollars per volume.

Correspondence relating to contributions should be addressed to the editors, at *Ithaca, New York.*

Manuscript intended for publication in THE PHYSICAL REVIEW must be communicated by the author; when publication in other journals is contemplated, notice to this effect should be given.

The authors of original articles published in the REVIEW will receive one hundred separate copies in covers, for which no charge will be made; additional copies when ordered in advance, may be obtained at cost.

PUBLISHED FOR CORNELL UNIVERSITY.

THE MACMILLAN COMPANY,

NEW YORK.

Elementary Mathematics

A Brief History of Mathematics. By the late *Dr. Karl Fink*, Tübingen, Germany. Translated by *Wooster Woodruff Beman*, Professor of Mathematics in the University of Michigan, and *David Eugene Smith*, Principal of the State Normal School at Brockport, N. Y. With biographical notes and full index. Pp. 345. Cloth, $1.50 net (5s. 6d. net).

Not a book of anecdotes, nor one of biography; but a clear and brief statement of the *facts* of mathematical history. An invaluable work for teachers of mathematics.

"Dr. Fink's work is the most systematic attempt yet made to present a compendious history of mathematics."—*The Outlook.*

"This book is the best that has appeared in English. It should find a place in the library of every teacher of mathematics."—*The Inland Educator.*

On the Study and Difficulties of Mathematics. By *Augustus De Morgan.* With Portrait of De Morgan, Index, and Bibliographies of Modern Works on Algebra, the Philosophy of Mathematics, Pangeometry, etc. Pp. viii, 288. Red Cloth, $1.25 (4s. 6.) net.

"The point of view is unusual; we are confronted by a genius, who, like his kind, shows little heed for customary conventions. The 'shaking up' which this little work will give to the young teacher, the stimulus and implied criticism it can furnish to the more experienced, make its possession most desirable. This 'Mathematical Series' must be held one of the most notable achievements of *The Open Court.*"—*Michigan Alumnus*, April, '99.

Lectures on Elementary Mathematics. By *Joseph Louis Lagrange.* With Portrait of Lagrange, Notes, Biographical Sketch, Marginal Analyses, Index, etc. Red Cloth. Pp. 172. Price, $1.00 (4s. 6d.) net.

"When the next book of this series is out, send it along. It is the most valuable series published."—*William Bellis*, Central Michigan Normal.

"Historical and methodological remarks abound, and are so woven together with the mathematical material proper, and the whole is so vivified by the clear and almost chatty style of the author as to give the lectures a charm for the reader not often to be found in mathematical works."—*Bulletin American Mathematical Society.*

"Probably never equalled in the peculiar quality of leading the mind to see and enjoy the beauty as well as the accuracy of the science."—*Chicago Chronicle.*

Mathematical Essays and Recreations. By *Hermann Schubert*, Professor of Mathematics in the Johanneum, Hamburg, Germany. Pp. 149. Cuts, 37. Price, Red Cloth, 75c (3s.) net.

"Professor Schubert expounds with great lucidity, and the translator's work has been excellently done."—*Manchester Guardian.*

"Professor Schubert's *Essays* make delightful reading. They deal, not with the dry side of mathematics, but with the philosophical side of that science on the one hand and its romantic side on the other. They are admirably lucid and simple and answer questions in which every intelligent man is interested."—*Chicago Evening Post.*

Elementary Illustrations of the Differential and Integral Calculus. By *Augustus De Morgan.* New reprint edition. With sub-headings and bibliography of English and foreign works on the Calculus. Red Cloth. Price, $1.00 (4s. 6d.) net.

"It aims not at helping students to cram for examinations, but to give a scientific explanation of the rationale of these branches of mathematics. Like all that De Morgan wrote, it is accurate, clear, and philosophic."—*Literary World.*

THE OPEN COURT PUBLISHING CO., CHICAGO, 324 Dearborn St.

LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

THE PSYCHOLOGICAL REVIEW

The regular numbers of *The Psychological Review* are issued bi-monthly on the first days of January, March, May, July, September, and November, and contain about 112 large octavo pages. The space is about equally divided between research work and critical articles, and reviews and discussion of psychological literature.

The Annual Subscription is $4.00 (16s. 6d.; Mk. 16.50; Fr. 21); Single Numbers, 75 cents (3s.; Mk. 3; Fr. 3.75).

As part of *The Review* there is published annually

The Psychological Index,

a bibliography prepared by PROF. H. C. WARREN, of Princeton University. It is sent without charge to subscribers to *The Review*, and may be purchased separately.

As part of *The Review* there is also published a series of

Monograph Supplements,

consisting of longer researches or treatises which it is important to publish promptly and as units. The *Monographs* are as follows:

VOL. I. $4.00.

I. On Sensations from Pressure and Impact: HAROLD GRIFFING. Pp. ii+88. 75c.
II. Association: MARY WHITON CALKINS. Pp. vii + 56. 50 cents.
III. Mental Development of a Child: KATHLEEN MOORE. Pp. iv + 150. $1.25.
IV. A Study of Kant's Psychology: EDWARD FRANKLIN BUCHNER. Pp. viii + 208. $1.50.

VOL. II. $4.00.

V. Problems in the Psychology of Reading: J. O. Quantz. Pp. iv + 51. 50 cents.
VI. The Fluctuation of Attention: JOHN PERHAM HYLAN. Pp. ii + 78. 75 cents.
VII. Mental Imagery: WILFRID LAY. Pp. ii + 59. 50 cents.
VIII. Animal Intelligence: EDWARD L. THORNDIKE. Pp. ii + 109. $1.00.
IX. The Emotion of Joy: GEORGE VAN NESS DEARBORN. Pp. ii + 70. 75 cents.
X. Conduct and the Weather: EDWIN G. DEXTER. Pp. viii + 105. $1.00.

VOL. III. $4.00. (To contain about 500 pages.)

XI. On Inhibition: B. B. BREESE. Pp. iv+65. 75 cents.
XII. On After-Images: SHEPHERD IVORY FRANZ. Pp. ix+61. 75 cents.
XIII. The Accuracy of Voluntary Movement: R. S. WOODWORTH. Pp. iv+114. $1.00.
XIV. A Study of Lapses: H. HEATH BAWDEN. Pp. iv+122. $1.00.

Subscriptions, orders, and business communications may be sent direct to Professor H. C. WARREN, Business Manager, Princeton, New Jersey, U. S. A., or forwarded through the publishers or agent.

THE MACMILLAN COMPANY,

41 N. QUEEN ST., LANCASTER, PA. 66 FIFTH AVE., NEW YORK.

AGENT: G. E. STECHERT, LONDON (2 Star Yard, Carey St., W. C.); LEIPZIG (Hospital St., 10); PARIS (76 rue de Rennes).

TERRESTRIAL MAGNETISM

AND

ATMOSPHERIC ELECTRICITY

An International Quarterly Journal conducted by L. A. BAUER, of the United States Coast and Geodetic Survey, with the assistance of

M. ESCHENHAGEN
Potsdam

TH. MOUREAUX
Parc St. Maur

ADOLF SCHMIDT
Gotha

G. W. LITTLEHALES
Washington

A. SCHUSTER
Manchester

J. ELSTER and H. GEITEL
Wolfenbüttel

J. S. AMES
Baltimore

A. McADIE
San Francisco

Foreign Councillors

A. W. RÜCKER
England

W. VON BEZOLD
Germany

E. MASCART
France

M. RYKATCHEW
Russia

American Councillors

H. S. PRITCHETT
Coast and Geodetic Survey

T. C. MENDENHALL
Worcester

W. B. CLARK
Johns Hopkins University

C. A. SCHOTT
Washington

With the March, 1900, issue, this Journal, devoted exclusively to Terrestrial Magnetism, Atmospheric Electricity, and allied subjects—such as Earth Currents, Auroras, etc.—entered on its fifth volume. The hearty co-operation extended, and the warm encouragement received from all sides, are the surest proof that the inauguration of this Journal has met a keenly felt want. Doubtless never before has such enthusiastic interest been taken in these most elusive subjects. No one who wishes to keep abreast of the latest and best thought in these comparatively unexplored sciences can afford to be without this Journal.

Every issue contains a fine half-tone portrait of some eminent magnetician or electrician.

A volume begins with the March issue and embraces about 200 large octavo pages. Articles appear in the original language of the author when Roman characters can be used.

Domestic Subscription Price: - - - $2.50 a year.
Foreign Subscription Price: - - - $2.75 a year.

Correspondence relating to subscriptions should be addressed to the **JOHNS HOPKINS PRESS, Baltimore, Maryland.** All other correspondence should be addressed to the **EDITOR, Washington, D. C.**

REVUE DE SYNTHÈSE HISTORIQUE

DIRECTEUR: **HENRI BERR**

La revue comprend quatre parties: 1° *Articles de fond* (théorie de l'histoire et psychologie historique).—2° *Revues générales* (inventaire du travail historique fait et à faire).—3° *Notes, Questions et Discussions* (intermédiaire entre les historiens, sociologues et philosophes).—4° *Bibliographie* (analyses, revue des revues et bulletin critique).

Utiles aux savants, les REVUES GÉNÉRALES permettront à tous les esprits curieux d'embrasser dans une seule publication tout l'horizon historique. *Histoire politique*, *Histoire économique*, *Histoire des Religions*, *Histoire de la Philosophie et des Sciences*, *Histoire littéraire*, *Histoire de l'Art*, *Anthropogéographie*, *Anthropologie*, *Sociologie*, y seront traitées pour les diverses époques et les divers pays, par les savants les plus compétents, *Professeurs du Collège de France*, *de la Sorbonne*, *des Universités*, etc. Leur ensemble constituera une admirable encyclopédie historique toujours complétée et tenue à jour.

La *Revue de Synthèse historique* paraît tous les deux mois, depuis août 1900. Elle a publié déjà des articles de MM. *Boutroux*, de l'Institut, *Bossert*, *Durkheim*, *Foncin*, *Goblot*, *P. Lacombe*, *K. Lamprecht*, *H. Lichtenberger*, *H. Rickert*, *Xénopol*, etc.; des Revues générales de MM. *G. Lanson* (histoire de la littérature française), *M. Croiset* (histoire de la littérature grecque), *E. Mâle* (histoire de l'art au m. âge), *J. Combarieu*, *Laloy* (histoire de la musique), *P. Tannery* (histoire des mathématiques), *A. Lalande* (histoire de la physique ancienne), *Ed. Chavannes* (histoire de Chine), *J. Kont* (histoire de Hongrie), le compte-rendu des Congrès historiques de 1900.

L'abonnement est de **15 francs** pour la France et de **17 francs** pour l'Étranger.—Le prix du numéro est de **3 francs.**

ADMINISTRATION ET RÉDACTION

A LA LIBRAIRIE CERF, PARIS

12, rue Sainte-Anne

The American Journal of Psychology

FOUNDED IN 1887 BY G. STANLEY HALL.

EDITED BY

G. STANLEY HALL, President and Professor of Philosophy, Clark University; E. B. TITCHENER, Sage Professor of Psychology, Cornell University; and E. C. SANFORD, Professor of Psychology, Clark University.

WITH THE CO-OPERATION OF

F. ANGELL, Stanford University; H. BEAUNIS, Universities of Nancy and Paris; A. F. CHAMBERLAIN, Clark University; V. HENRI, Paris; C. F. HODGE, Clark University; A. KIRSCHMANN, University of Toronto; O. KUELPE, University of Würzburg; W. B. PILLSBURY, University of Michigan; G. W. STOERRING, University of Leipzig, and A. D. WALLER, London.

The American Journal of Psychology is devoted to the interests of Psychology in the widest sense of the word. It publishes (1) the results of Experimental Investigations in Psychology and Psychophysics; (2) Studies in the Psychology of the Abnormal; (3) Anthropological Researches into Myth, Custom, Religious Belief, etc.; (4) Studies in the Psychology of the Criminal; (5) Neurological Researches; and (6) Articles on the Psychology of Ethics, Æsthetics, Logic, etc.

The Journal is published quarterly. Each number contains some 150 pages, of which about 130 are occupied by Original Articles. Reviews of Psychological and Cognate Literature, Book Notes, and Notes on Recent Researches and Current News conclude the Number.

Communications may be addressed to any one of the three Principal Editors.

Volume XI. contains, among others, the following Papers:

I. M. BENTLEY: "The Memory Image and Its Qualitative Fidelity; the Synthetic Experiment." G. E. DAWSON: "Psychic Rudiments and Morality." E. B. HUEY: "On the Psychology and Physiology of Reading." G. E. PARTRIDGE: "Studies in the Psychology of Alcohol." F. H. SAUNDERS and G. S. HALL: "Pity." W. S. SMALL: "An Experimental Study of the Mental Processes of the Rat; the Psychic Development of the Young White Rat." E. B. TITCHENER: "The Equipment of a Psychological Laboratory." N. TRIPLETT: "The Psychology of Conjuring Deceptions."

Subscription Price, $5.00 a Year; Single Numbers, $1.50.

Published by Mr. L. N. WILSON, Worcester, Mass., U.S.A.

FOREIGN AGENTS:

London: TRÜBNER & Co.; Paris: E. TERQUEM; Turin: E. LOESCHER;
Leipzig: F. A. BROCKHAUS; Berlin: MAYER & MÜLLER.

NOTABLE PUBLICATIONS

SKETCHES OF TOKYO LIFE

By JUKICHI INOUYE. Numerous curious illustrations from wood-blocks, doubly-folded sheets, Japanese printing, binding, paper, etc., etc. Pp. 108. Price, 75 cents.

Text in English. Treats of many quaint aspects of Japanese life—the story-tellers' hall, the actor and the stage, the wrestler and the ring, fortune-telling, fires and firemen, jinrikishas, dancing-girls, etc.

A CANDID EXAMINATION OF THEISM

By PHYSICUS (the late G. J. Romanes, M. A., LL. D., F. R. S.). Third Edition. Pp. xi, 197. Cloth, $2.00.

This book was originally written by Romanes in 1878. It is a powerful arraignment of theism, which the young investigator felt obliged to forsake at this time on purely rational grounds, but to which he afterwards reverted when near his death. Romanes' *Thoughts on Religion*, his well-known posthumous work, was written to offset this book. Together they form an interesting study in individual religious development.

THE OPEN COURT PUBLISHING COMPANY
CHICAGO, 324 DEARBORN STREET

SCHOPENHAUER BUSTS

The Open Court Publishing Co. has procured from Elisabet Ney, the famous sculptress, the original model of her well-known bust of Schopenhauer, made in 1859, a year before the death of the great philosopher. (Photographs on application.)

Plaster Casts Made from the Original Model by Elisabet Ney.

A limited number of life-size plaster reproductions of this model have been made and are offered for sale at $15.00 each. Transportation is extra, but the weight of the bust, packed and ready for shipment, will not exceed fifty pounds.

THE OPEN COURT PUBLISHING CO.
325 DEARBORN STREET, CHICAGO, ILL.

THE CHIEF'S DAUGHTER

A LEGEND OF NIAGARA

By PAUL CARUS. Illustrations by EDUARD BIEDERMANN. A story in neat, small octavo. Seven photogravures. Thirteen pen and ink and half-tone illustrations. Special initials and title-page ornaments. Printed on fine paper in large clear type. Bound in cloth; pages, 74. Price, $1.00 net.

JUST PUBLISHED

The fascinating Indian legend of the annual sacrifice to the waters of Niagara of a beautiful maiden has been made in this story the basis of a tale of religious development and emancipation, which freed the Indian tribe of the Oniahgahrahs from the thrall of a debasing superstition though without dishonor to their consciences and sacred traditions. The scene is laid in the time of the French exploration of the North and Middle West and the chief European rôle is played by the historic figure of Father Hennepin.

THE OPEN COURT PUBLISHING COMPANY

324 DEARBORN STREET, CHICAGO

LONDON: KEGAN PAUL, TRENCH, TRÜBNER & CO., LTD.

Paternoster House, Charing Cross Road.

WORKS BY

SHADWORTH H. HODGSON

THE METAPHYSIC OF EXPERIENCE (1898).
4 Vols., 8vo., Buckram, $12.00.

OUTCAST ESSAYS [Literary] AND VERSE TRANSLATIONS (1881).
1 Vol., Crown 8vo, Half-roan, $3.00.

THE PHILOSOPHY OF REFLECTION (1878).
2 Vols., 8vo, Cloth, $7.50.

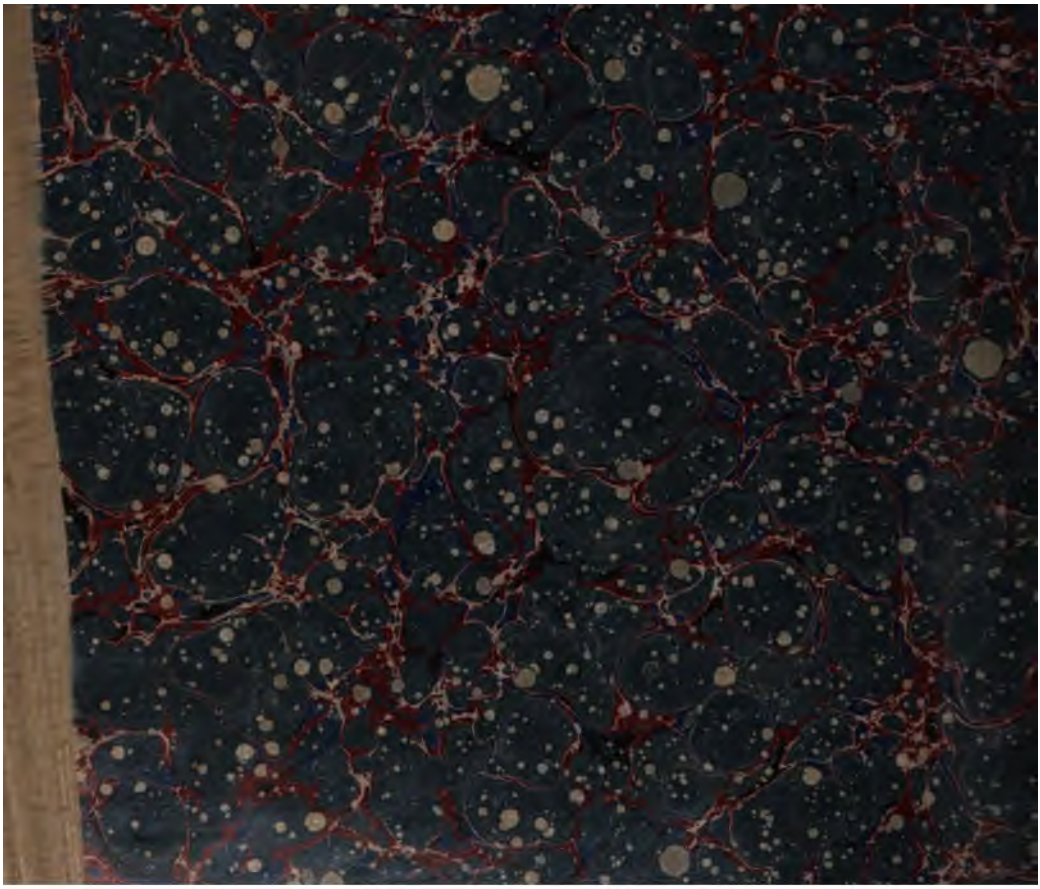
THE THEORY OF PRACTICE, an Ethical Enquiry (1870).
2 Vols., 8vo, Cloth, $8.75.

TIME AND SPACE, a Metaphysical Essay (1865).
1 Vol., 8vo, Cloth, $5.75.

LONGMANS, GREEN AND CO.,

91 AND 93 FIFTH AVE., NEW YORK

LONDON AND BOMBAY



NIVER
GREE
IFORI
723
e reco
ATE D